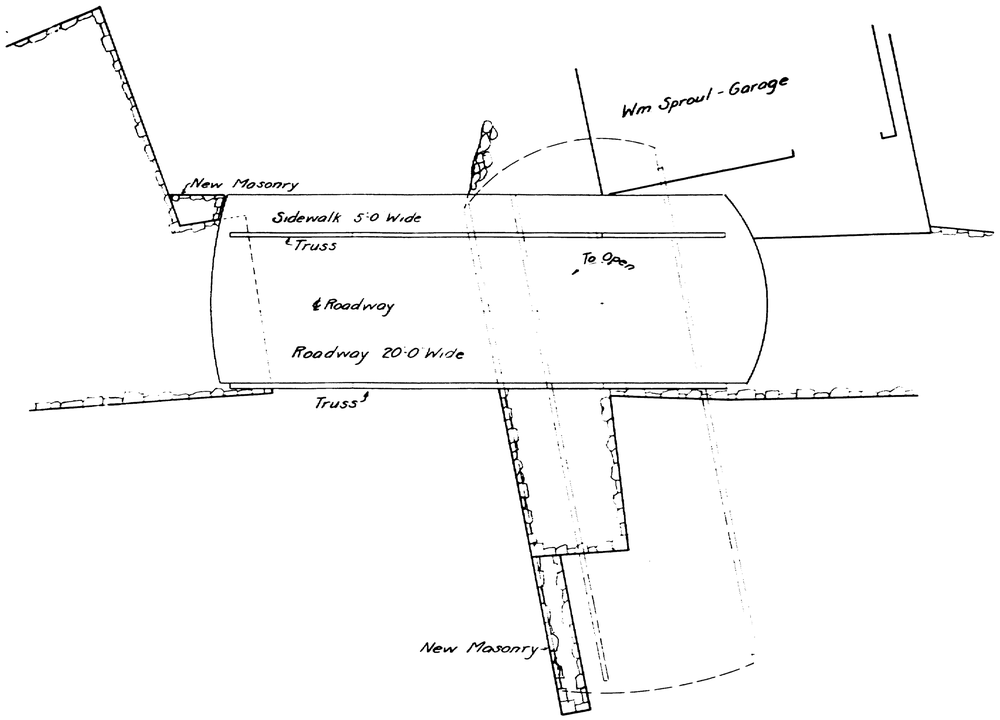
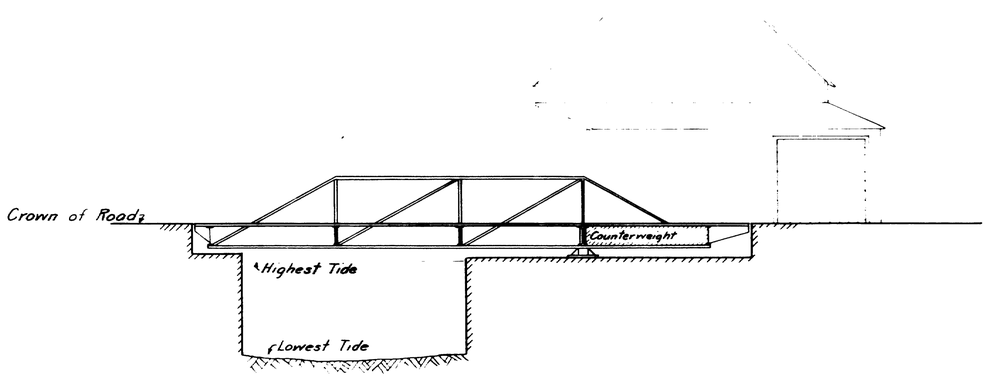
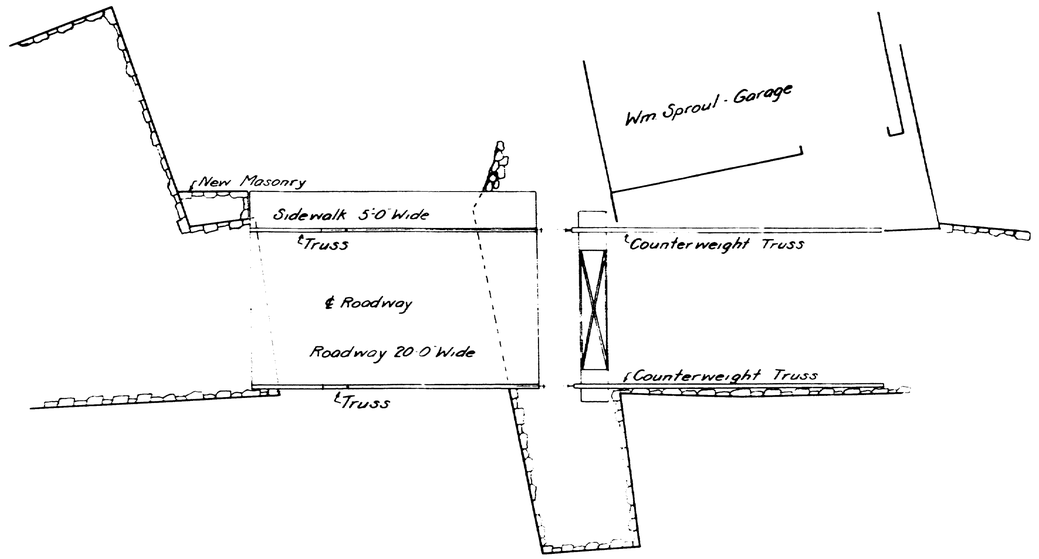
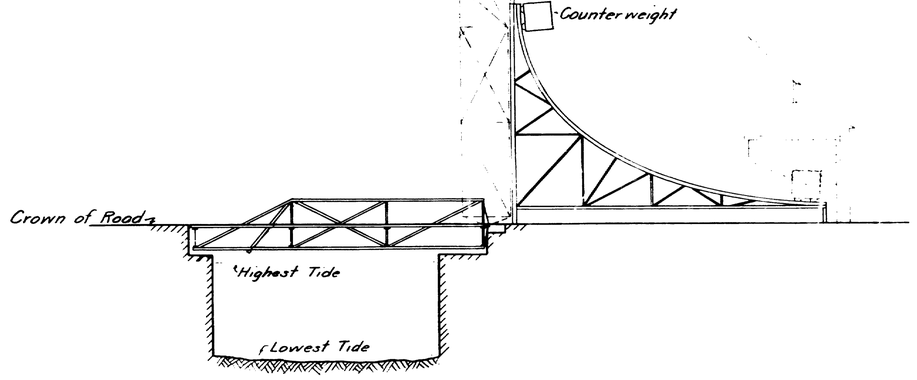



SWING BRIDGE




LIFT BRIDGE

MAINE HIGHWAY COMMISSION
BRIDGE DIVISION

# GUT BRIDGE

BETWEEN

**RUTHERFORD ISL. AND MAINLAND**

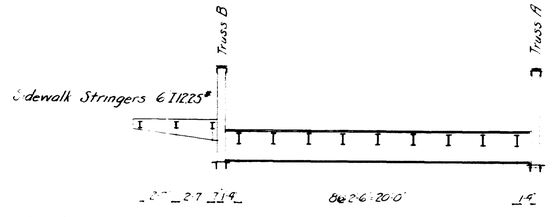
**So. BRISTOL – LINCOLN CO.**

GENERAL SKETCH

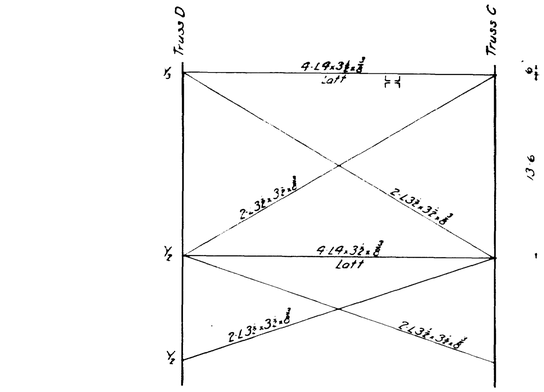
Sheet 1 Augusta, Me. Dec. 1922

4-1

0 1 2 3 4 5 INCHES

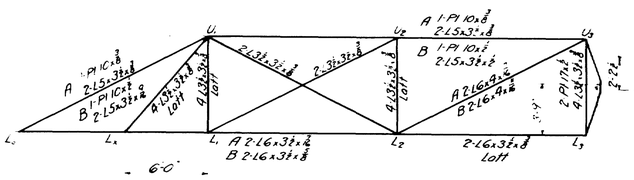


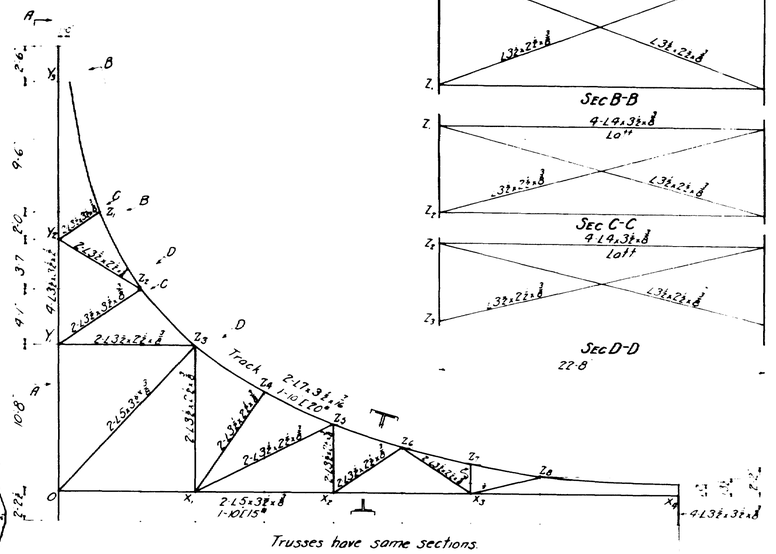

SECTION OF BRIDGE



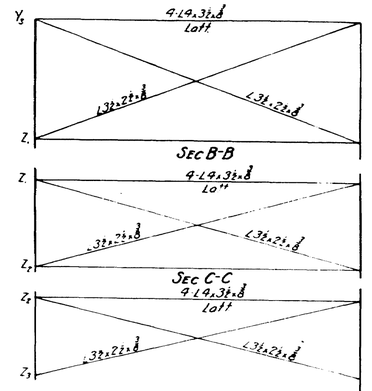

SEC A-A

22-8



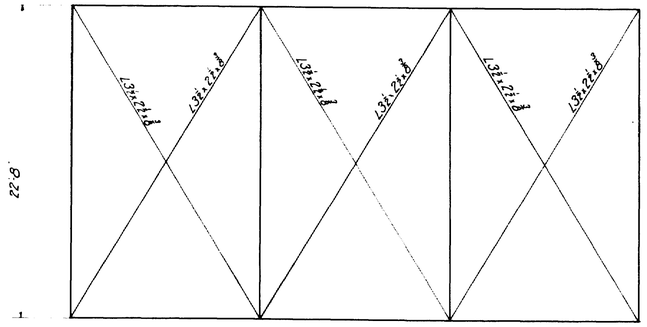




Trusses have same sections.




STRESS IN TOWER TRUSS MEMBERS
FOR COUNTERWEIGHT AT TOP OF TOWER

| Member | C | D |
|---|---|---|
| OY | -76 | -96 |
| $Y_1Y_2$ | -90 | -113 |
| $Y_2Y_3$ | -109 | -137 |
| $Y_3Z_1$ | +74 | +93 |
| $Z_1Z_2$ | +70 | +88 |
| $Z_2Z_3$ | +56 | +70 |
| $Z_3Z_4$ | +53 | +66 |
| $Z_4Z_5$ | +53 | +67 |
| $Z_5Z_6$ | +69 | +86 |
| $Z_6Z_7$ | +92 | +115 |
| $Z_7Z_8$ | +89 | +112 |
| $Z_8X_4$ | +89 | +112 |
| OX. | -33 | -41 |
| $X.X_2$ | -57 | -71 |
| $X_1X_3$ | -68 | -85 |
| $X_3X_4$ | -80 | -100 |
| $Y_1Z_1$ | +18 | +22 |
| $Y_2Z_2$ | -18 | -22 |
| $Y.Z_2$ | +25 | +32 |
| $YZ_3$ | -21 | -26 |
| $OZ_3$ | +35 | +44 |
| $Z_3X.$ | -18 | -22 |
| $X.Z_4$ | +11 | +14 |
| $X.Z_5$ | +19 | +24 |
| $Z_5X_2$ | -8 | -10 |
| $X_2Z_6$ | +14 | +17 |
| $Z_6X_3$ | -14 | -18 |
| $Z_7X_3$ | +8 | +10 |




BOTTOM CHORD BRACING

STRESS IN TRUSS MEMBERS

| | Truss A | | | | Truss B | | | |
|---|---|---|---|---|---|---|---|---|
| Member | Dead | Live | Impact | Design Stress | Dead | Live | Impact | Design Stress |
| $L_0L_1$ | -198 | -379 | -121 | -855 | -259 | -576 | -184 | -127 |
| $L_1L_2$ | -175 | -338 | -108 | -761 | -230 | -513 | -164 | -113 |
| $L_0U_2$ | +175 | +338 | +108 | +761 | +230 | +513 | +164 | +113 |
| $U_1U_2$ | +90 | +173 | +62 | +400 | +118 | +263 | +94 | +595 |
| $U_2L_2$ | 0 | -79 | -27 | -149 | 0 | -109 | -37 | -201 |
| $U_1L_2$ | 0 | +162 | +58 | +315 | 0 | +228 | +82 | +493 |
| $L_1U_2$ | 0 | +162 | +58 | +315 | 0 | +228 | +82 | +493 |
| $L_2U_3$ | +198 | +379 | +121 | +855 | +259 | +576 | +184 | +127 |

MAINE HIGHWAY COMMISSION
BRIDGE DIVISION

# GUT BRIDGE

BETWEEN

## RUTHERFORD ISL. AND MAINLAND
## SO. BRISTOL - LINCOLN CO.

STRUCTURAL STEEL

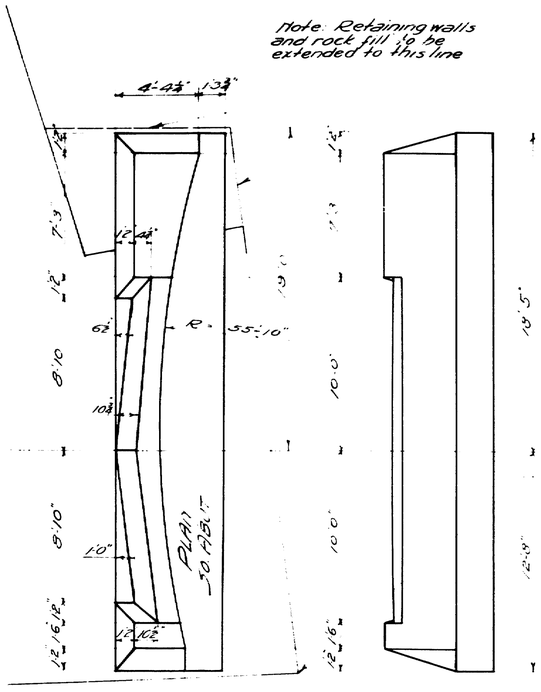
Augusta, Me. Jan. 1923

4-2

J.W.D.

0 1 2 3 4 5 INCHES

Note: Retaining walls and rock fill to be extended to this line

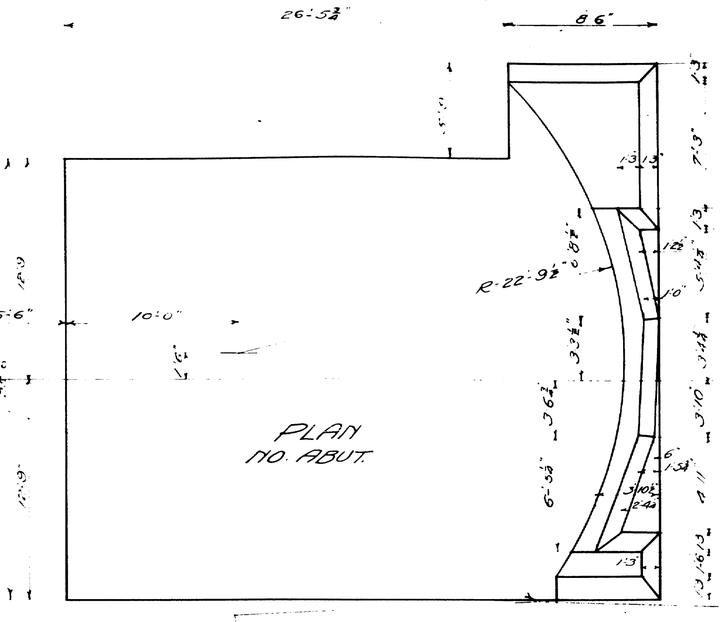


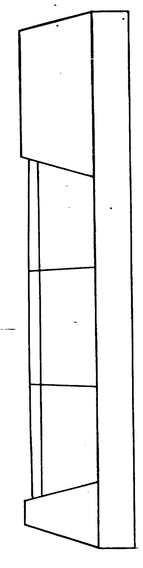



FRONT ELEVATION
SO. ABUT.

℄ of Bridge and Roadway ℄
Note: This ℄ is a line 13'-0" from nearest portions of East retaining walls.

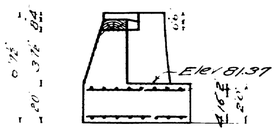
Note: This wall to be extended for a distance of 37'-6" from ℄ of Bridge



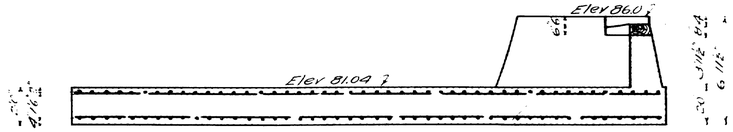
REAR ELEVATION
NO. ABUT.

| MARK | SIZE | NO. REQ'D | LENGTH | LOCATION |
|---|---|---|---|---|
| F1 | 1" | 62 | 34'-8" | [illegible] |
| 2 | " | 70 | 25'-2" | " |
| 3 | " | 22 | 30'-11" | " |
| 4 | " | 16 | 8'-2" | NO. ABUT. |
| 5 | " | 16 | 30'-9" | SO. ABUT. |
| 6 | " | 84 | 5'-4" | " |
| P1 | 3/4" | 32 | 4'-7½" | POSTS |
| R1 | 3/8" | 4 | 41'-0" | RAILS |
| R2 | " | 12 | 8'-3" | RAILS |

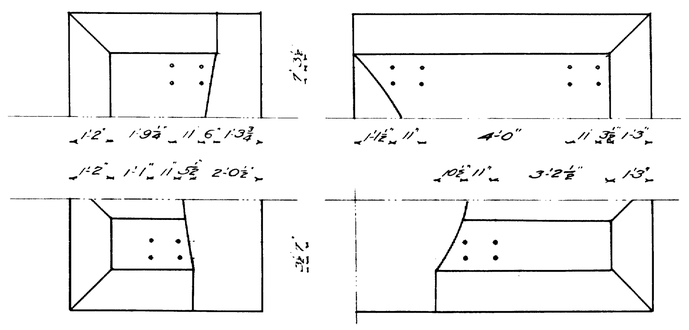


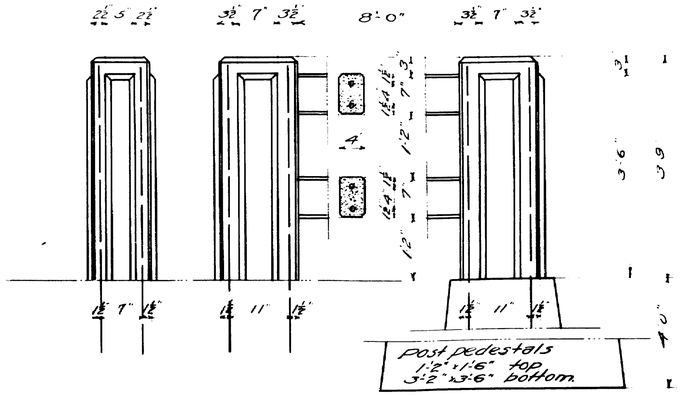

SECTION
SO. ABUT.

Note: Steel in top and bottom of abutment slabs to be spaced 9" ctrs.




SECTION
NO. ABUT.




Note: post steel to be placed in position when abutment is cast. Precast rail bars 8'-5" long (except at NW corner which bars are 4'-2" long) wrap the end six inches of bars with roofing felt, fold in the ends and place in position with 2½" of bars projecting into the posts. When post forms are removed, cut away all exposed portions of roofing felt.

All exposed edges of concrete to be chamfered 1" except rail bars, which are chamfered ⅛".

Raised panels on posts are ⅞" thick, and are beveled ⅛":

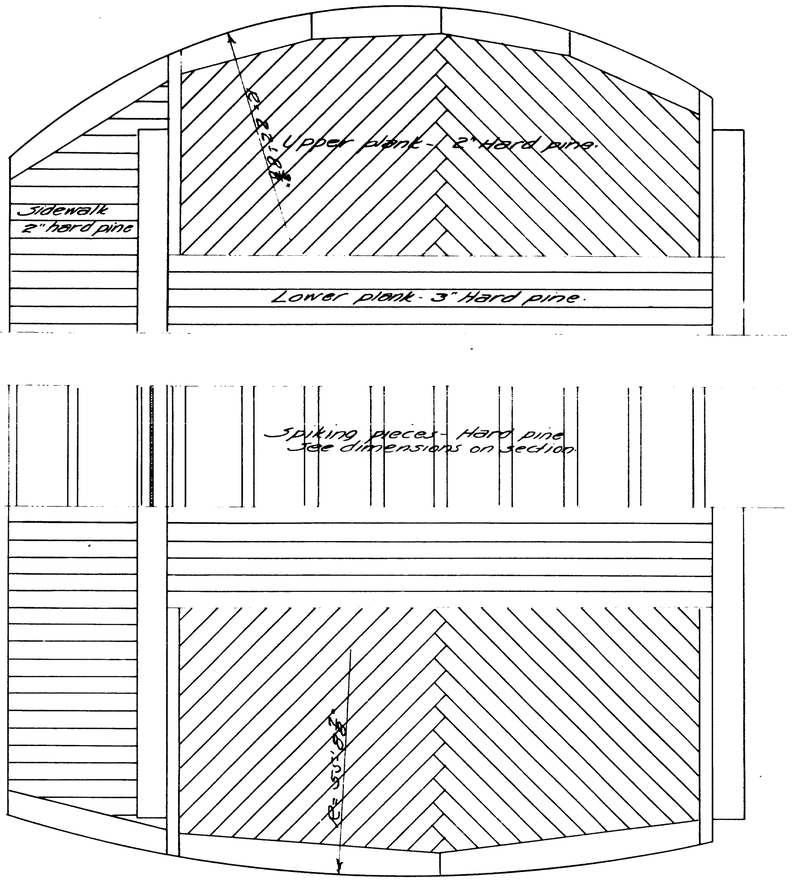
Drawn by [illegible]
Checked by C.H.D.
11-42

MAINE HIGHWAY COMMISSION
BRIDGE DIVISION
'THE GUT' BRIDGE
IN THE TOWN OF
SO. BRISTOL, LINCOLN CO.
SUBSTRUCTURE
Sheet 2 of 3 Augusta Me. Aug 28

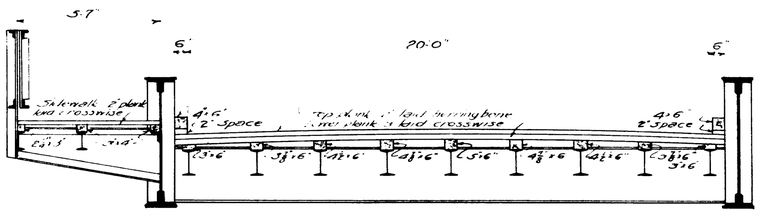
4.

0 1 2 3 4 5 INCHES

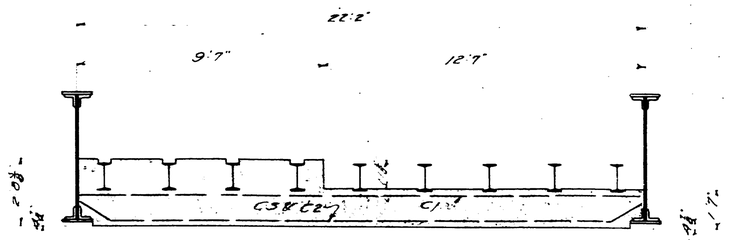
Note: End timbers in roadway to be oak, 10" thick at crown and 8" thick at crotch, to be cut from timbers 12" wide and to be bolted to brackets. Sidewalk end timbers - 5" oak.



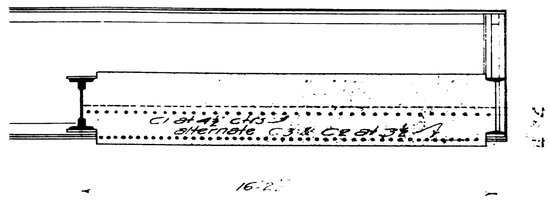

PLAN



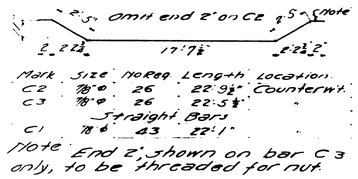

SECTION




CROSS-SECTION COUNTERW'T.




LONG. SECTION




| Mark | Size | No Req. | Length | Location |
|---|---|---|---|---|
| C2 | 1 1/8" ø | 26 | 22'-9 1/2" | Counterwt. |
| C3 | 1 1/8" ø | 26 | 22'-5 1/8" | " |
| | Straight Bars | | | |
| C1 | 1" ø | 43 | 22'-1" | " |

Note End 2" shown on bar C3 only, to be threaded for nut.

Note: In casting counterweight, care must be taken to provide sleeves for shafting, and adequately drained openings for machinery.

Each cubic foot of concrete in counterweight to consist of:

| | |
|---|---|
| 57.5 | lbs mortar |
| 242.5 | " scrap iron |
| 300.0 | " total wt. |

Bars C3 to extend thru girder webs and are to be provided with nuts and washers.

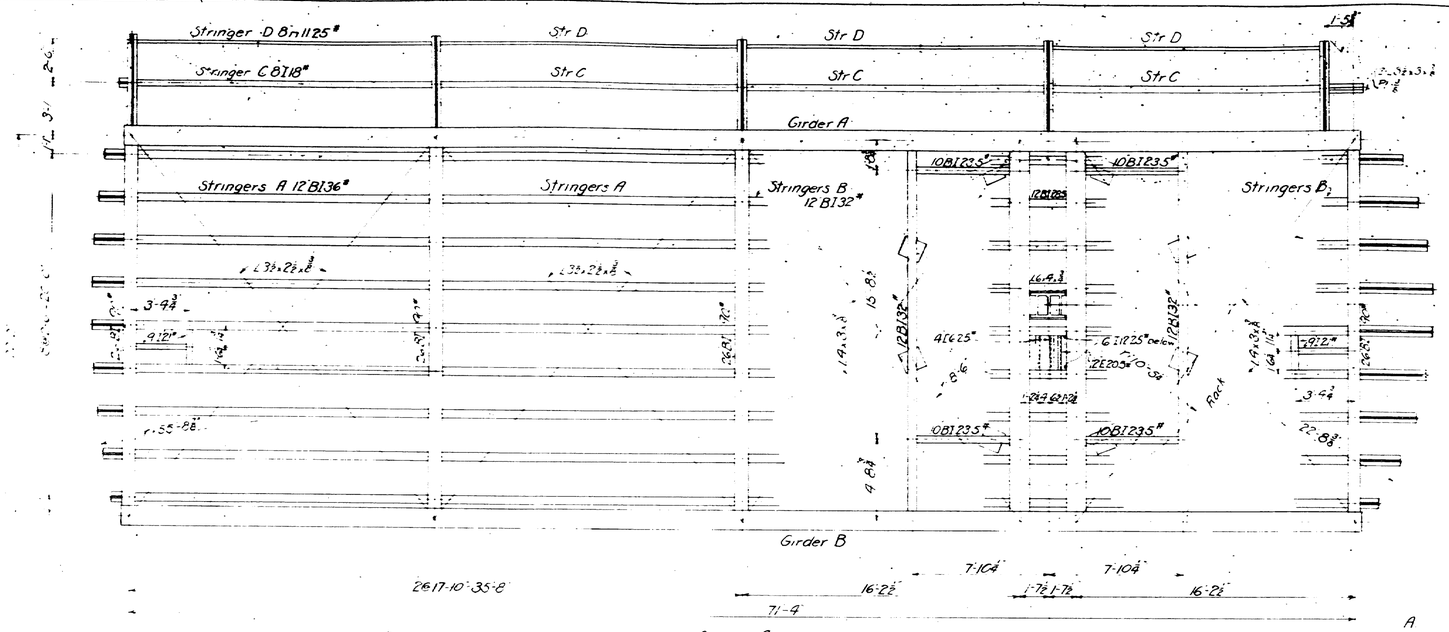
In providing openings for machinery, do not cut reinforcing bars. Reinforcing bars are to be bent and crowded around openings.

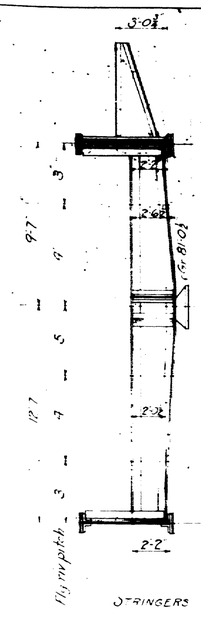
Drawn by P.R.

MAINE HIGHWAY COMMISSION
BRIDGE DIVISION
'THE GUT' BRIDGE
IN THE TOWN OF
SO. BRISTOL, LINCOLN CO.
PLANKING and COUNTERW'T.
Sheet 3 of 3 Augusta Me. Aug 25, 1922

4-4

0 1 2 3 4 5 INCHES




A
DL Plank 2.5x⅝x48 = 50 "per ft
Spiking Pieces 6
Stringer 36
92"per ft

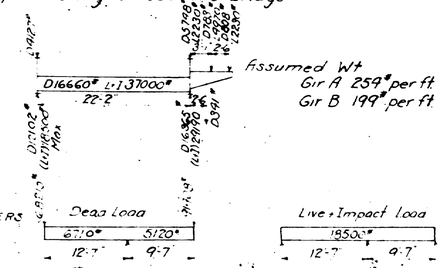
DL M 92x1783²/8 = 3660"
(L+I)M 13x6250x1783/4 = 36200"
39860"
100% over load 3660"
72400"
76060" = 14.54300"
Use 12"B136#

B
DL 88"per ft = 2.2x62
DL M 13x6250x62/4 = 2890"
(L+I)M 32920"
35790"
100% over load 2890"
65800"
68690"
68690-16.49200"
Use 12B132#

C
Load Plank 2.79x6x98 = 22.32
Spiking piece = 4
Stringer = 18
Live Load 279x100x.279 = 323.32"per ft
M = 323x178²/8 = 12800"
Use 8I18#

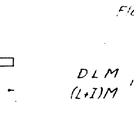
D
Load Plank 1.58x6x98 = 12.64
Handrail = 17.46
Spiking Piece = 4
Stringer = 11.25
Live Load 100x125x.125 = 17.035"per ft
M = 17035x1783²/8 = 6770"
Use 8I11.25#

LOADING
Live Load 2-15 Ton Trucks or 80"per sq ft on roadway and 100"per sq ft on sidewalk.
Impact 30% of Live Load on roadway only
Wind 20"per sq ft of windward girder plus 20"per sq ft moving across the bridge




Moment = 10962000"
Unit stress = 19000-150 60/119 = 13357#/□"
Req I = 10962000x16/13357 = 13130"4
4-L6x6x⅝
1-Web 36x⅜
2-Cov 19x⅜

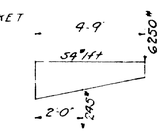
FLOOR BEAMS
DL Plank 17.63x21x⅛x48 = 7500"
Spiking Pieces 116.3"
Stringers 5180"
Floor Beam 1990"
16233"




100% over load
DL M 16233x22.17/8 = 45000" 45000"
(L+I)M 13.98x80x17.17/8 = 176000" 352000"
221000" 397000" = 14.284000
Use 26B190#

SIDEWALK BRACKET
M = 5750x37+3050x67+34.5x30 = 4273000"#
Use 4-L3½x2½x½ PI B

STRINGER BRACKET
DL Plank 50"per ft
Spkg Pc 4
54"per ft
Bracket 295#
DL M 54x475²/2 + 295x26 = 31190"
(L+I)M 13x6250x57 = 463000"#
494190"#
100% over load 31190"
432000"#
463190"#
Unit Stress = 19000-150 675/119 = 12890#/□"
Req I = 939.9x.05/12890x.14 = 548"4
Use 4-L3½x3½x⅝ P. 20.4

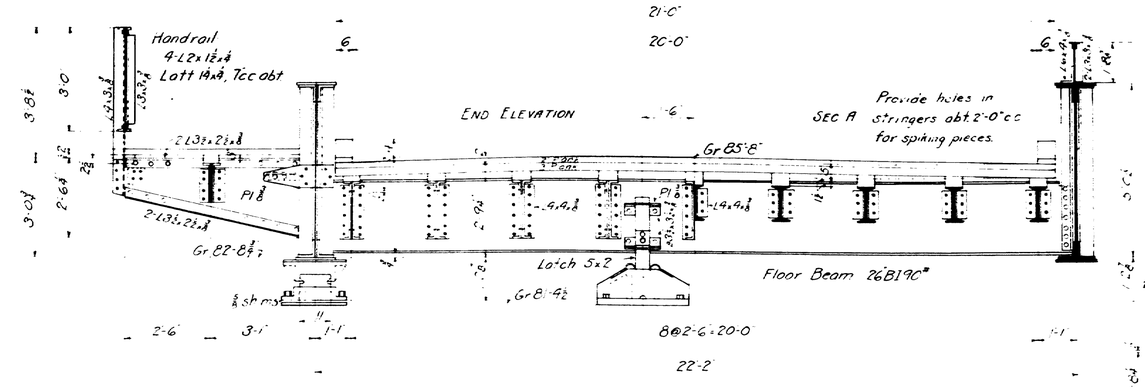


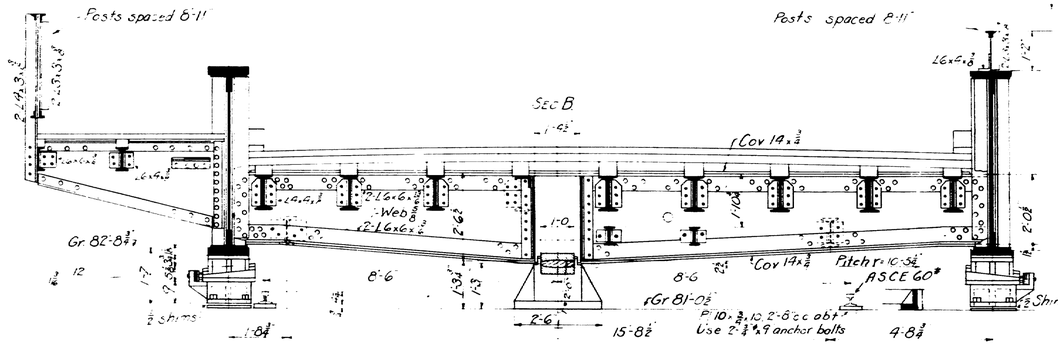

NOTE:
Wedges under long arm and pivot to be thrust to bearing without reaction under dead load
Wedges under short arm to be adjusted to prevent lifting under live load.

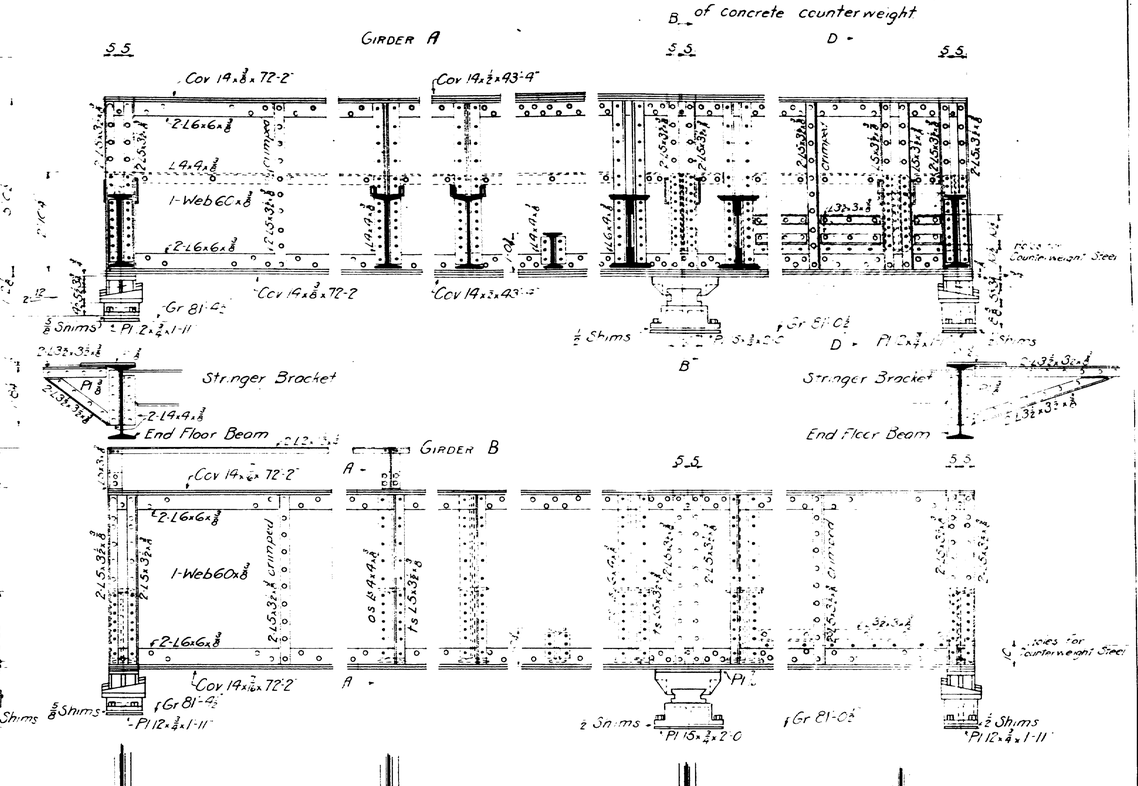
MAINE HIGHWAY COMMISSION
BRIDGE DIVISION
GUT BRIDGE
BETWEEN
RUTHERFORD ISL AND MAINLAND
SO. BRISTOL – LINCOLN CO.
STRESS SHEET
Sheet 2 of 4 Augusta, Me. July 1922.

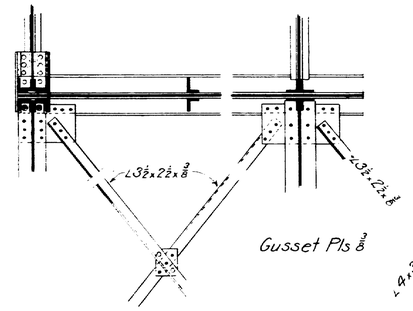
4-5

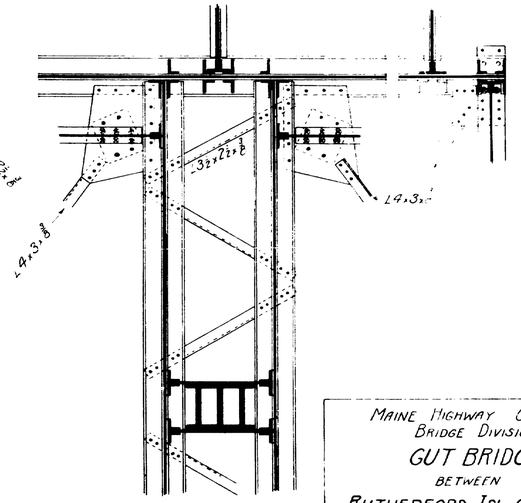
0 1 2 3 4 5 INCHES



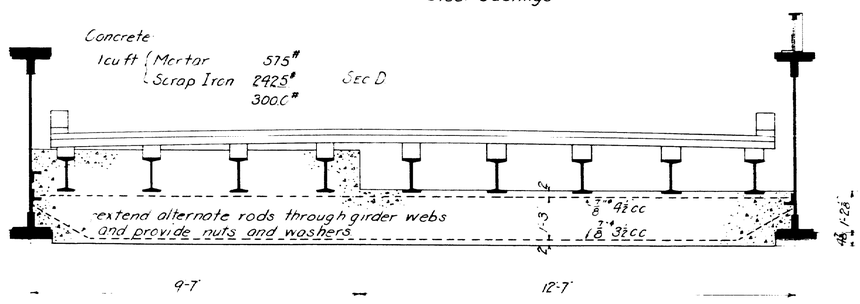



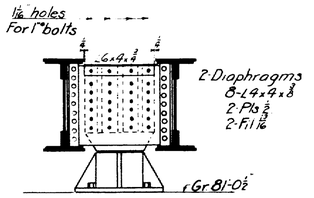



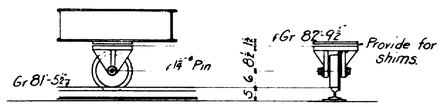




Pivot
Phosphor Bronze Disc
Hardened Steel Bearings
Steel Castings




NOTES:

Details shown are suggestive of those to be used in the preparation of shop detail plans. All details to be prepared in accordance with Maine Highway Commission, Bridge Division, Specifications for Metal Structures.

Use ⅞" rivets except in handrail.

All anchor bolts 1¼"ø x 1'-6" except as noted.

MAINE HIGHWAY COMMISSION
BRIDGE DIVISION

# GUT BRIDGE

BETWEEN

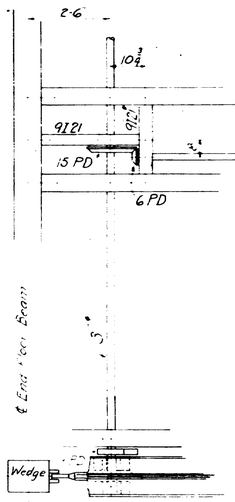
RUTHERFORD ISL. AND MAINLAND
SO. BRISTOL – LINCOLN CO.

GENERAL DETAILS

Sheet 3 of 9 Augusta, Me July 1922.

4-6

0 1 2 3 4 5 INCHES

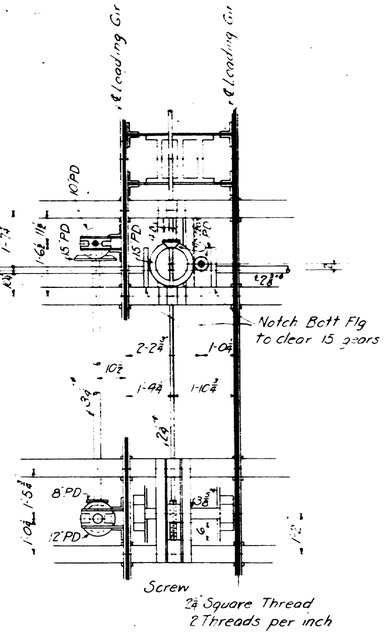


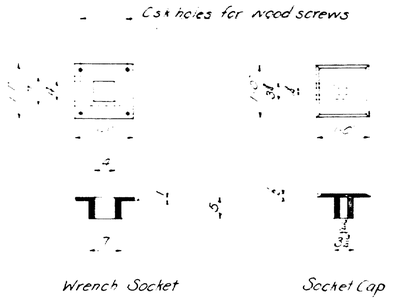

NOTE

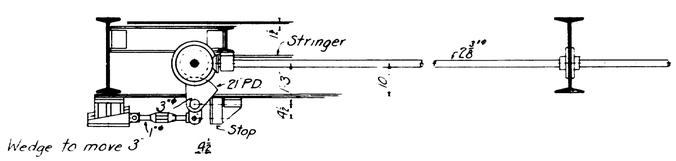
Details shown are suggestive of those to be used in the preparation of shop detail plans.

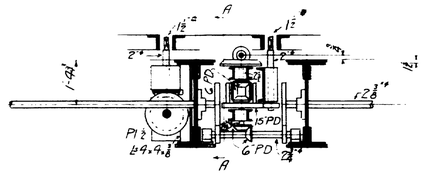
All details are to be prepared in accordance with Maine Highway Commission, Bridge Division, Specifications for Metal Structures

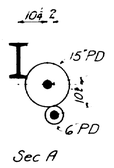
Turning and Wedge mechanism to be operated by a force of 90# at 8'-6 from the shaft

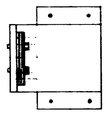


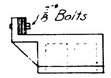



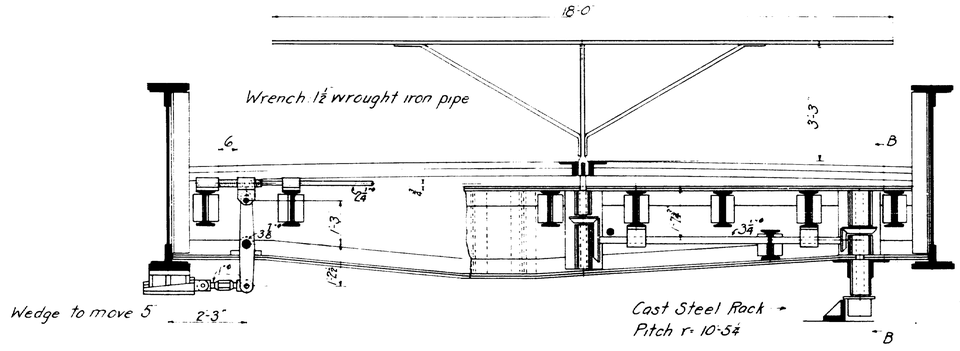



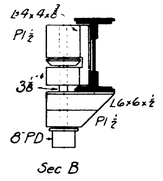



Shims




Adjustable stop for side wedges




MAINE HIGHWAY COMMISSION
BRIDGE DIVISION

# GUT BRIDGE

BETWEEN

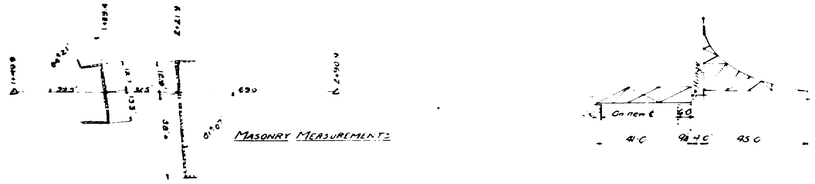
RUTHERFORD ISL. AND MILLIN.

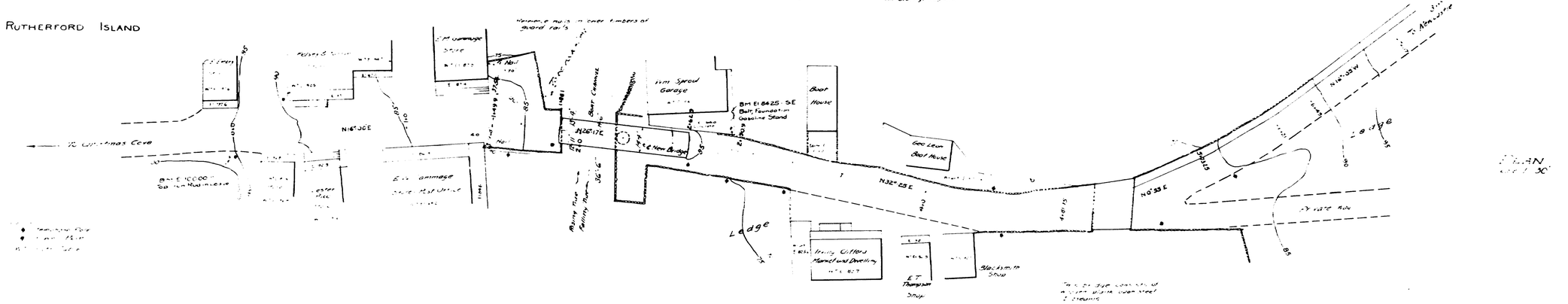
SO. BRISTOL – LINCOLN Co.

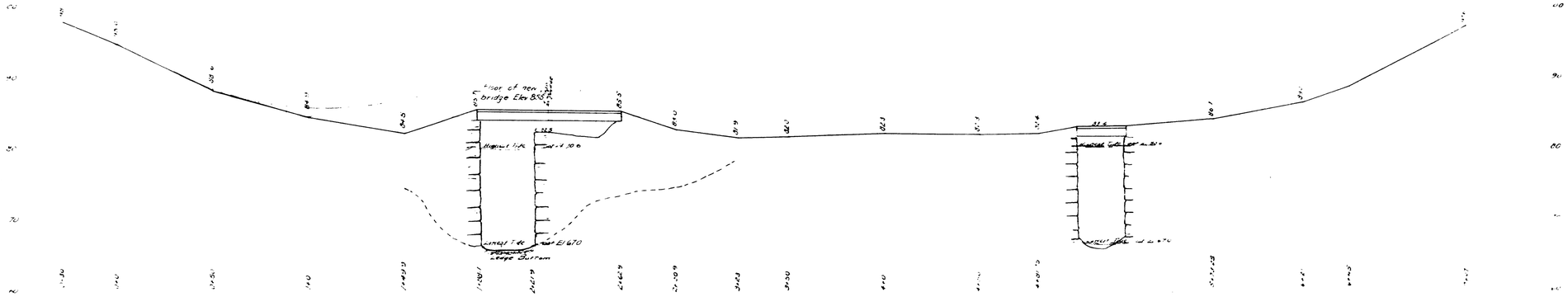
MACHINE DETAILS

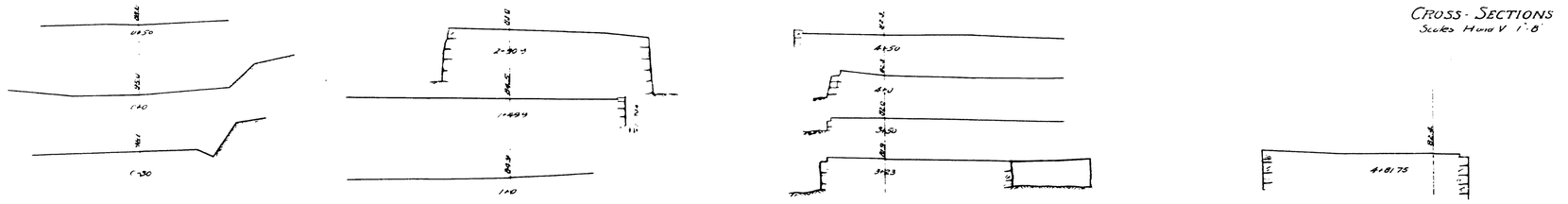
Sheet 9 of 9 Augusta, Me.

0 1 2 3 4 5 INCHES




MAINE HIGHWAY COMMISSION
BRIDGE DIVISION

# THE GUT BRIDGE
BETWEEN
## RUTHERFORD ISLAND AND MAINLAND
IN THE TOWN OF
## SO. BRISTOL, LINCOLN COUNTY
SURVEY PLAN

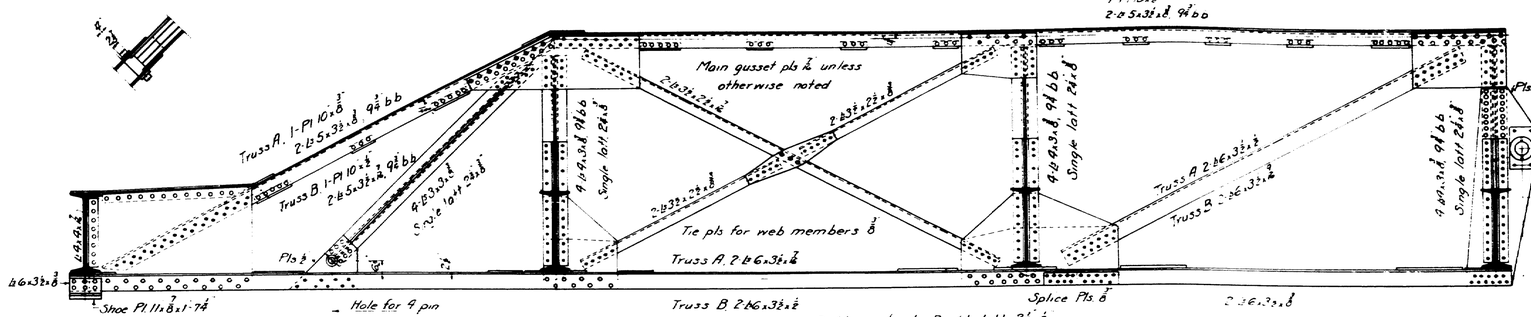
Sheet 1 of 6 — Jan 16, 1922.

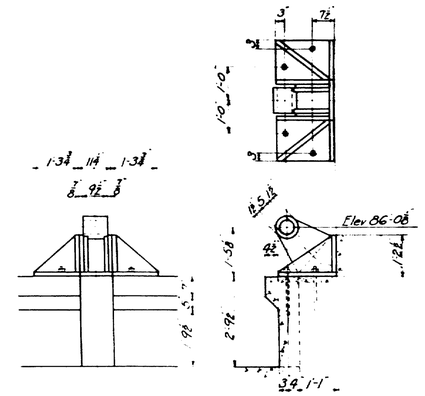
Survey by A.V. 1.10.22
Plotted by A.V.V.

4-8

0 1 2 3 4 5 INCHES

Make ties for top chords and end posts of B




NOTES

Use ⅞" rivets except in Tie and flanges of 6"I's.

Provide 1⅛" holes 3'-0" c. to c. on the upper outside flanges of end floor beams under the roadway

Details shown are suggestive of those to be used in the preparation of shop detail plans. All details are to be prepared in accordance with Maine Highway Commission, Bridge Division, Specifications for Metal Structures

The center of gravity of the metal parts of the movable span shall be accurately determined longitudinally, vertically, and transversely from the shop detail plans and indicated thereon. The total weight of the above shall also be indicated on the shop detail plans

NOTES

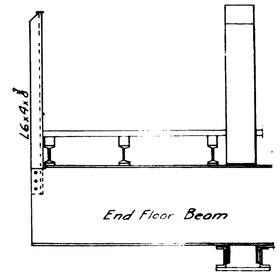
Bolt cast steel collars to trusses with provision for 4" cotter pins passing through collars and pins

Make cast steel of trunnion bearing casting 1½" thick

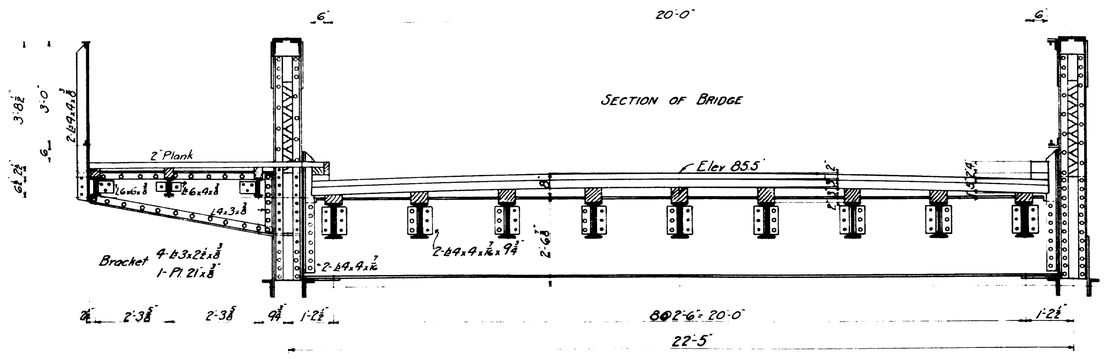
Make trunnion bearing of phosphor bronze and provide grease cup for each bearing

Anchor bolts for castings 1¾" x [illegible]

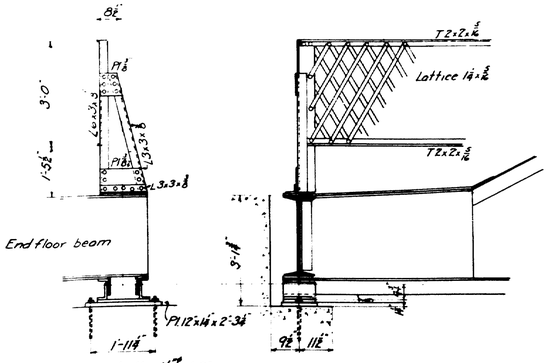



Sidewalk Detail at South End of Bridge




Stringers 12"B 13.6# Floor beams 28"B 17.0#




Anchor bolts 1¾" x 1'-2"

MAINE HIGHWAY COMMISSION
BRIDGE DIVISION

# GUT BRIDGE

BETWEEN

## RUTHERFORD ISL. AND MAINLAND
## SO. BRISTOL – LINCOLN CO.

SUPERSTRUCTURE

Sheet 2 of 6 Augusta, Me. Feb. 1923

4:9

Drawn by W.D.

0 1 2 3 4 5 INCHES

NOTES

Details shown are suggestive of those to be used in the preparation of shop detail plans. All details are to be prepared in accordance with Maine Highway Commission, Bridge Division, Specifications for Metal Structures.

Use $\frac{3}{4}$" rivets.

Make shaft bearings of phosphor bronze. Provide grease cups for all bearings.

Location of counterweight track is provisional and is subject to adjustment after cg of movable span has been calculated accurately from complete detail plans.

Chain wheels 30" PD { for 14" crane chain on East truss. / 12" West

Beveled gear, PD 30", 45 Teeth, 5" wide

PD 8", 12 Teeth, 5" wide

Single Latt for bracing 2 L 4 x 4 x $\frac{5}{8}$
Tie Pls & Gusset Pls $\frac{5}{8}$

Tower is symmetrical about ℄ except machinery.

HALF SECTION OF TOWER

TRACK BRACING

Gusset pls $\frac{7}{16}$

Web members to have long legs of ℄ together.

This member for East truss only.

4 L 9 x 9 x $\frac{5}{8}$, 10" b tab
Single Latt 2 L 8 x $\frac{5}{8}$

2 L 7 3/4 x $\frac{5}{8}$
1-10" 20#

2-Web reinforcing pls $\frac{5}{8}$

Machinery Support

Conn ∠ 9 x 3 $\frac{5}{8}$

Pl $\frac{5}{8}$ x 2 L 4 x 3 $\frac{5}{8}$

4 L 3 1/2 x 3 x $\frac{5}{16}$ Weld

℄ Elev 87.78'

℄ Elev 85.30'

℄ Elev 85.83'

℄ Elev 89.50'

3'-0" | 3'-0" | 9'-0" | 5'-0" | 5'-0" | 5'-0" | 5'-0" | 15'-0" | 2'-0"

45'-0"

5'-0" of 9" pitch — 5'-0" of 3" pitch — 7'-0" of 9½" pitch — Rivet pitch

Base ∠ 9 x 9 x $\frac{5}{8}$
Shoe Pl 12 x $\frac{1}{2}$ x 1'-6"
Masonry Pl 12 x $\frac{1}{2}$ x 1'-6"
4 Anchor Bolts 1¼" x 1'-6"

holes

PD 36", 72 Teeth, 2½" wide
PD 6"
PD 8"
PD 80"
1½" for wrench

GEAR LAYOUT

ELEVATION OF EAST TRUSS

Slotted holes 2 x 1¼

2 L 9 x 9 x $\frac{5}{8}$
2 L 9 x 9 x $\frac{5}{8}$
Shoe Pl 17 x 1 x 1'-1¼"
Masonry Pl 17 x 1 x 1'-1¼"

MAINE HIGHWAY COMMISSION
BRIDGE DIVISION

# GUT BRIDGE

BETWEEN

RUTHERFORD ISL. AND MAINLAND
So. BRISTOL – LINCOLN CO.

COUNTERWEIGHT TRUSS

Sheet 3 of 6 Augusta, Me. Mar. 1923.

4-10

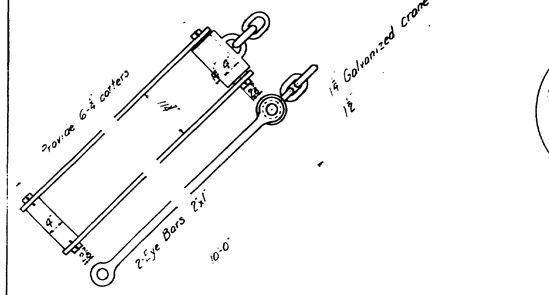
0 1 2 3 4 5 INCHES

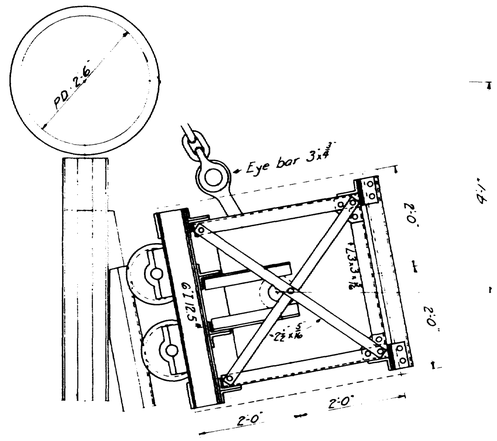
NOTES

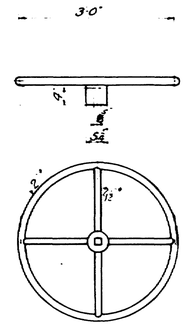
Details shown are suggestive of those to be used in the preparation of shop detail plans. All details are to be prepared in accordance with Maine Highway Commission, Bridge Division, Specifications for Metal Structures.

Final dimensions of concrete portion of counterweight to be determined after the weight and center of gravity of the movable span have been calculated from complete detail plans.

Use $\frac{7}{8}$" rivets except in flanges of 6I's use $\frac{5}{8}$" rivets.



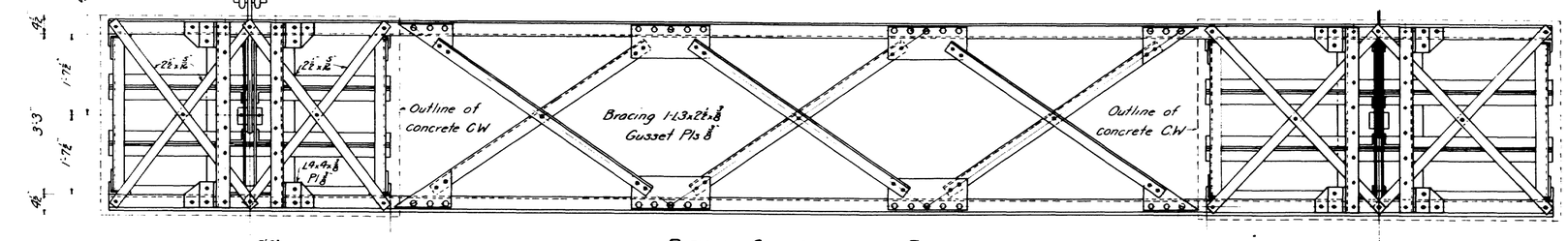

WRENCH, CAST STEEL

Holes 6 c.c.

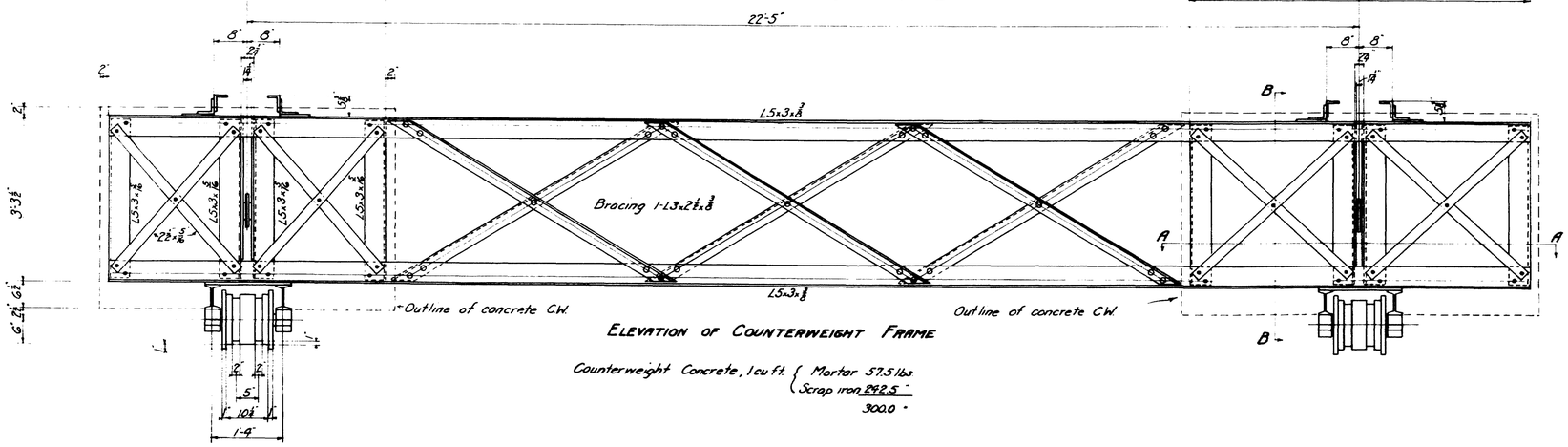
COUNTERWEIGHT, TRUSS A

Holes 6 c.c.

COUNTERWEIGHT, TRUSS B

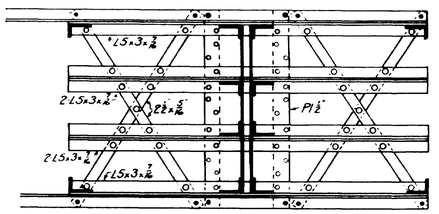



PLAN OF COUNTERWEIGHT FRAME

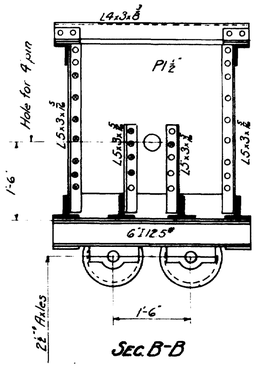



ELEVATION OF COUNTERWEIGHT FRAME

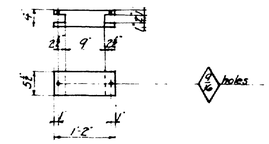
Counterweight Concrete, 1 cu ft { Mortar 57.5 lbs / Scrap iron 242.5 / 300.0 }




SEC. A-A




SEC. B-B



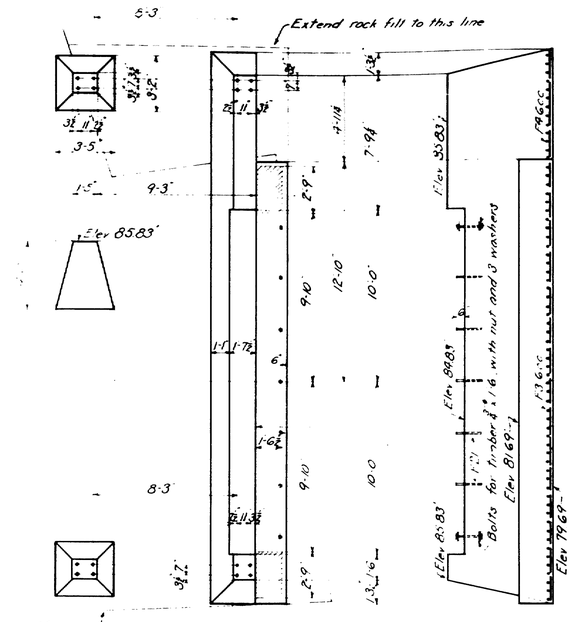

Cast iron for CW adjusment. Make 16

MAINE HIGHWAY COMMISSION
BRIDGE DIVISION
**GUT BRIDGE**
BETWEEN
**RUTHERFORD ISL. AND MAINLAND**
**So. BRISTOL - LINCOLN CO.**
COUNTERWEIGHT FRAME
Sheet 9 of 6 Augusta, Me. Mar. 1923

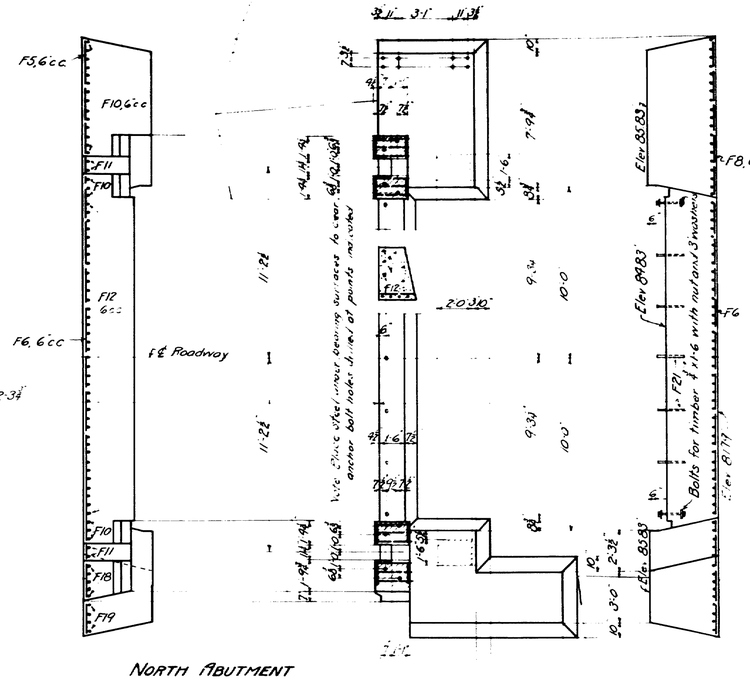
4-11

Drawn by JWD

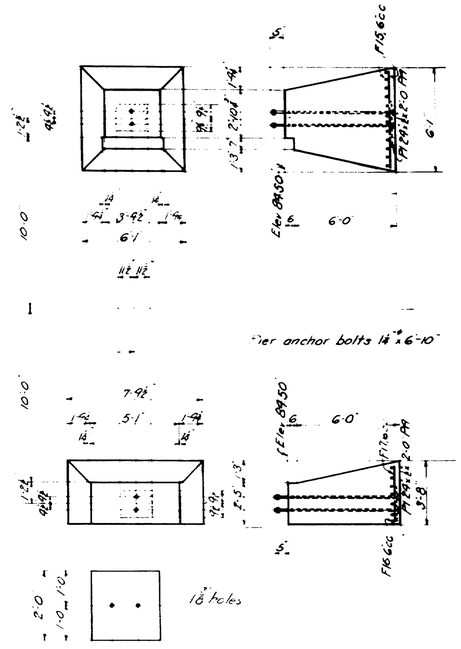
0 1 2 3 4 5 INCHES

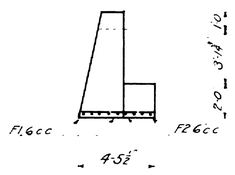


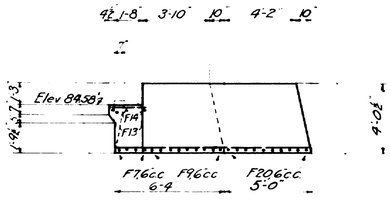

SOUTH ABUTMENT

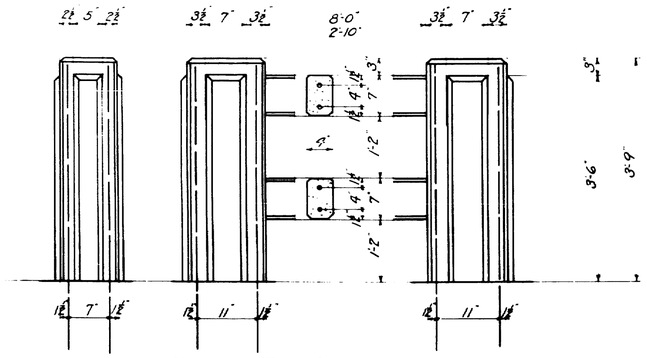



NORTH ABUTMENT




POST AND RAIL DETAILS

Note Place post steel in position when abutments are cast. 4 precast rail bars 8'-5" long, 2 bars 3'-3" long. Wrap end six inches of bars with 2 layers of roofing felt, fold in the ends and place in position with 2" of bars projecting into the posts. When post forms are removed, cut away all exposed portions of roofing felt.
Chamfer all exposed edges of concrete 1" except, chamfer edges of rail bars 1/2".
Raised panels on posts are 8" thick, and are beveled 8".

STEEL SCHEDULE

| Mark | Size | No Reqd | Length | Location |
|---|---|---|---|---|
| F1 | 1" sq | 5 | 31'-6" | So Abut |
| F2 | 1" sq | 4 | 25'-4" | " " |
| F3 | 1" sq | 51 | 4'-1" | " " |
| F4 | 1" sq | 13 | 2'-4" | " " |
| F5 | 1" sq | 4 | 6'-7" | No Abut |
| F6 | 1" sq | 7 | 21'-2" | " " |
| F7 | 1" sq | 5 | 2'-2" | " " |
| F8 | 1" sq | 9 | 9'-0" | " " |
| F9 | 1" sq | 9 | 6'-6" | " " |
| F10 | 1" sq | 20 | 6'-0" | " " |
| F11 | 1" sq | 4 | 4'-4" | " " |
| F12 | 1" sq | 37 | 1'-9" | " " |
| F13 | 1" sq | 8 | 1'-1" | " " |
| F14 | 1" sq | 12 | 2'-0" | " " |
| F15 | 1" sq | 24 | 5'-9" | Pier Base |
| F16 | 1" sq | 7 | 7'-5" | " " |
| F17 | 1" sq | 16 | 3'-4" | " " |
| P1 | 4" x 8" | 24 | 4'-7" | Posts |
| R1 | 8" x 8" | 8 | 8'-3" | Rail Bars |
| R2 | 8" x 8" | 4 | 3'-1" | " " |
| F18 | 1" sq | 5 | 11'-0" | No Abut |
| F19 | 1" sq | 4 | 9'-6" | " " |
| F20 | 1" sq | 10 | 4'-4" | " " |
| F21 | 3/4" sq | 10 | 1'-6" | Back walls |

PA, P1 24" x 8" x 2'-0" make 2

MISCELLANEOUS STEEL

| No Reqd | Size | Shape | Length | Remarks |
|---|---|---|---|---|
| 9 | 1" | Bolts | 1'-6" | with hex nuts |
| 8 | 3" | Washers | | for 1" bolts |
| 9 | 1 1/4" | Rods | 6'-10" | thread 3 each end |
| 8 | | Hex nuts | | for 1 1/4" bolts |

MAINE HIGHWAY COMMISSION
BRIDGE DIVISION

# GUT BRIDGE

BETWEEN

RUTHERFORD ISL AND MAINLAND
SO. BRISTOL – LINCOLN CO.

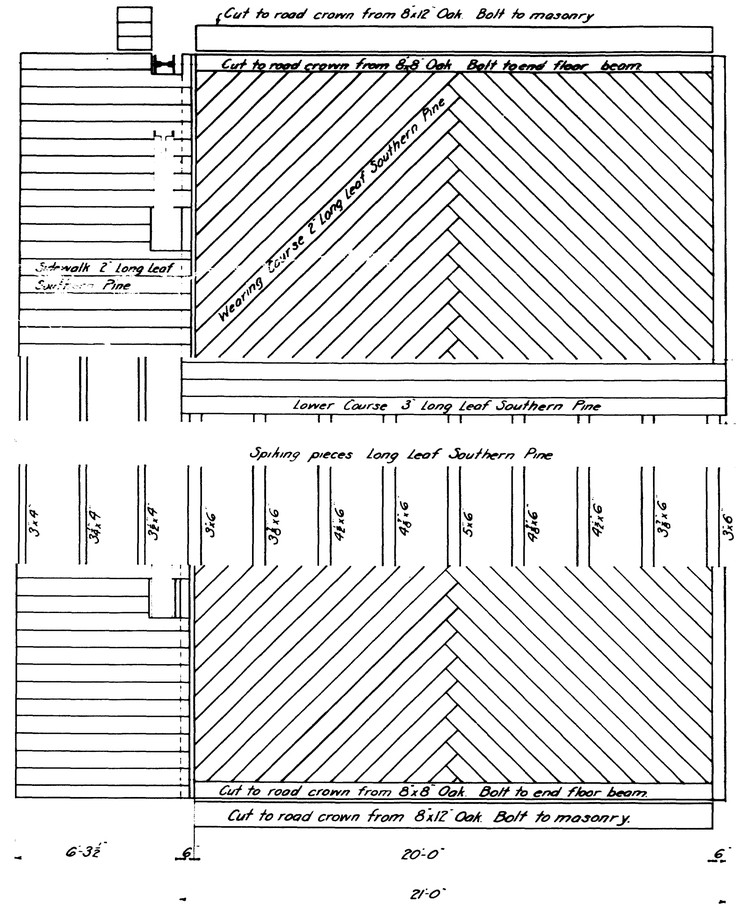
SUBSTRUCTURE PLAN

Sheet 5 of 6 Augusta, Me. Feb. 1923

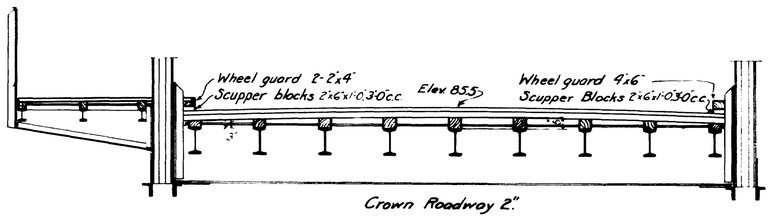
4-12

Drawn by J. O. G.

0 1 2 3 4 5 INCHES




PLAN OF FLOOR




SECTION OF FLOOR

MAINE HIGHWAY COMMISSION
BRIDGE DIVISION

# GUT BRIDGE

BETWEEN

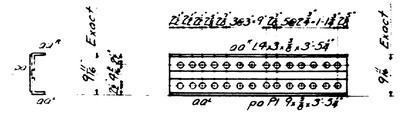
## RUTHERFORD ISL. AND MAINLAND
## So. BRISTOL – LINCOLN Co.

FLOOR PLAN

Sheet 6 of 6 Augusta, Me. Mar. 1923

4-13

0 1 2 3 4 5 INCHES




Make 4-M1 — 3'-5¼"

Make 2-M2 as shown — L 3 x 3 x ⅜ x 3'-11½"
Make 2-M3 Opp hand — L 3 x 3 x ⅜ x 3'-11½"

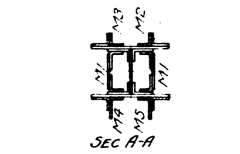
Make 2-M9 as shown — L 3 x 3 x ⅜ x 3'-1½"
Make 2-M5 Opp hand — L 5 x 3½ x ⅜ x 3'-11½"

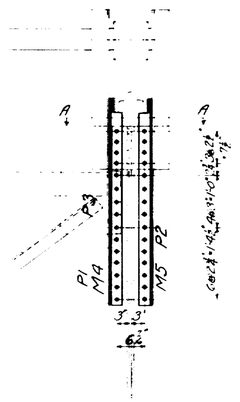
Make 4-P1 — 3" x ⅜" x 1'-9½"

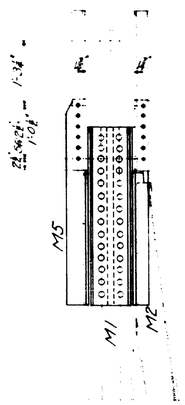
Make 4-P2 — 3" x ⅜" x 2'-7"

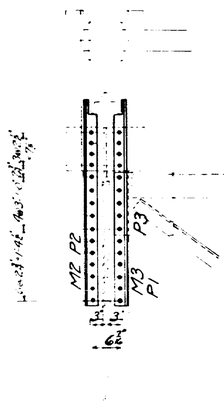
Make 4-P3 — 3" x ⅜" x 1'-2½"

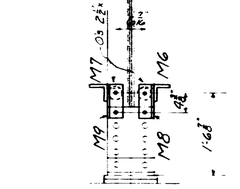
Rivets ⅞"
Holes 15/16"

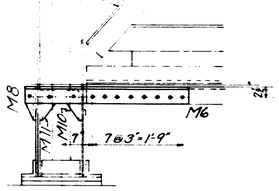


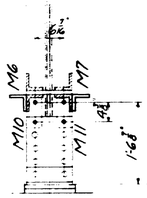




Make 2-M8 as shown — 7½"
Make 2-M9 Opp hand — 7½"

Make 2-M6 as shown — L 4 x 4 x ½ x 3'-1½"
Make 2-M7 Opp hand — L 4 x 4 x ½ x 3'-1½"

Make 4-M10 as shown — 6½"
Make 4-M11 Opp hand — 6½"

Drawn by J.N.D.
Ck. E.A.H.B.

MAINE HIGHWAY COMMISSION
BRIDGE DIVISION

# GUT BRIDGE

BETWEEN

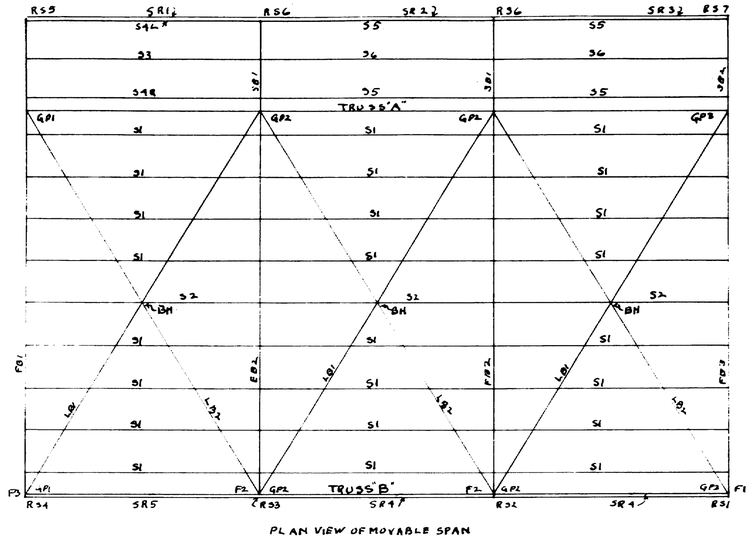
**RUTHERFORD ISLAND MAINLAND**
**So. BRISTOL – LINCOLN CO.**

STIFFENING FOR TOWER COLUMNS

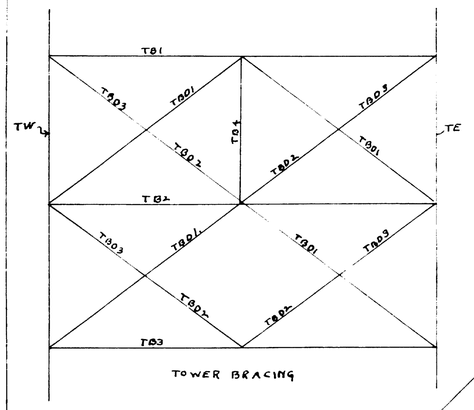
Sheet 1 · Augusta, Me. Mar. 1929

4-14

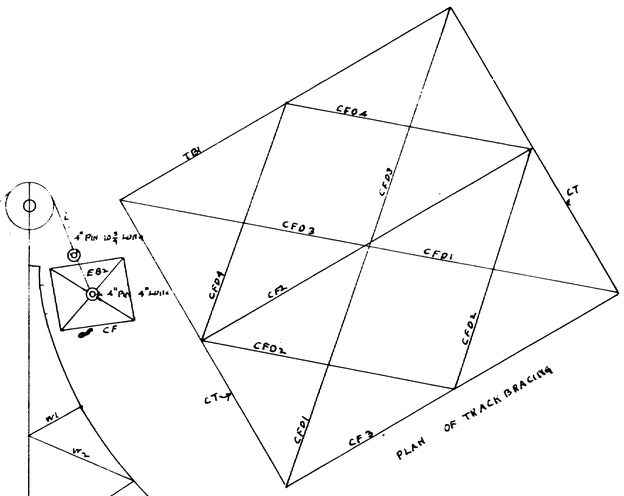
0 1 2 3 4 5 INCHES



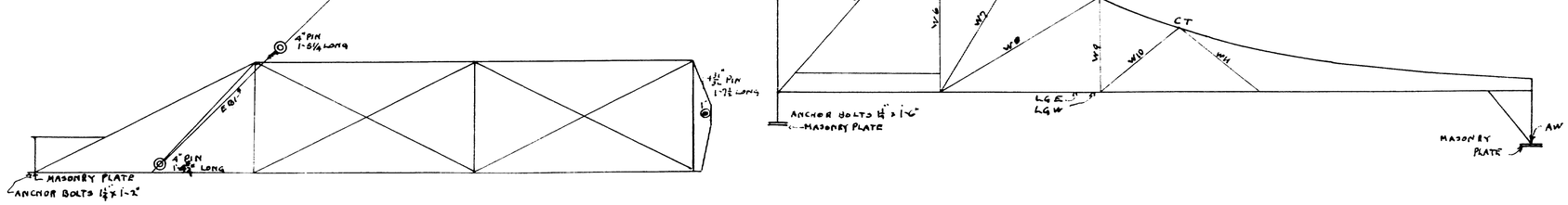

PLAN VIEW OF MOVABLE SPAN




TOWER BRACING




PLAN OF TRACK BRACING

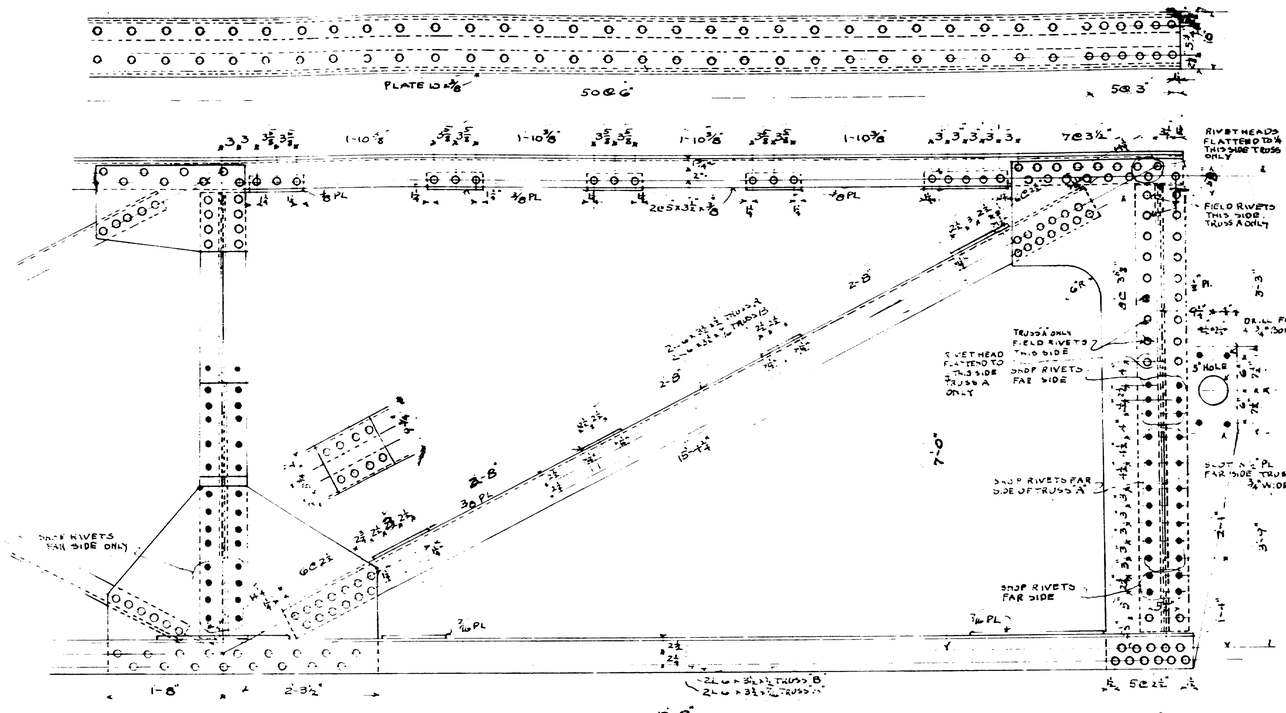



MATERIAL FROM
BRADLEE & CO.
HYDE WINDLASS CO.
BATH IRON WORKS LTD.

B. E. SAVAGE - CONTRACTOR
NEWBURY MASS
GUT BRIDGE
SO. BRISTOL ME.
MAINE HIGHWAY COMMISSION
12 SHEETS SHEET 1.

4-15

0 1 2 3 4 5 INCHES




NOTES

TWO TRUSSES REQD. TRUSS B AS SHOWN
TRUSS A OPP HAND.
ALL RIVETS ¾ DIA UNLESS NOTED.
FIELD RIVETS SHOWN SOLID UNLESS OTHERWISE MARKED.
ALL RIVET HOLES 7/8" DIAM UNLESS OTHERWISE MARKED.
ALL PARTS TO RECEIVE 1 COAT OF RED LEAD AND OIL
SURFACES IN CONTACT WITH EACH OTHER TO BE PAINTED
BEFORE BEING RIVETED TOGETHER
THE PARTS TO BE ASSEMBLED WHILE THE PAINT IS PLASTIC.

B. E SAVAGE - CONTRACTOR
NEWBURY MASS

GUT BRIDGE

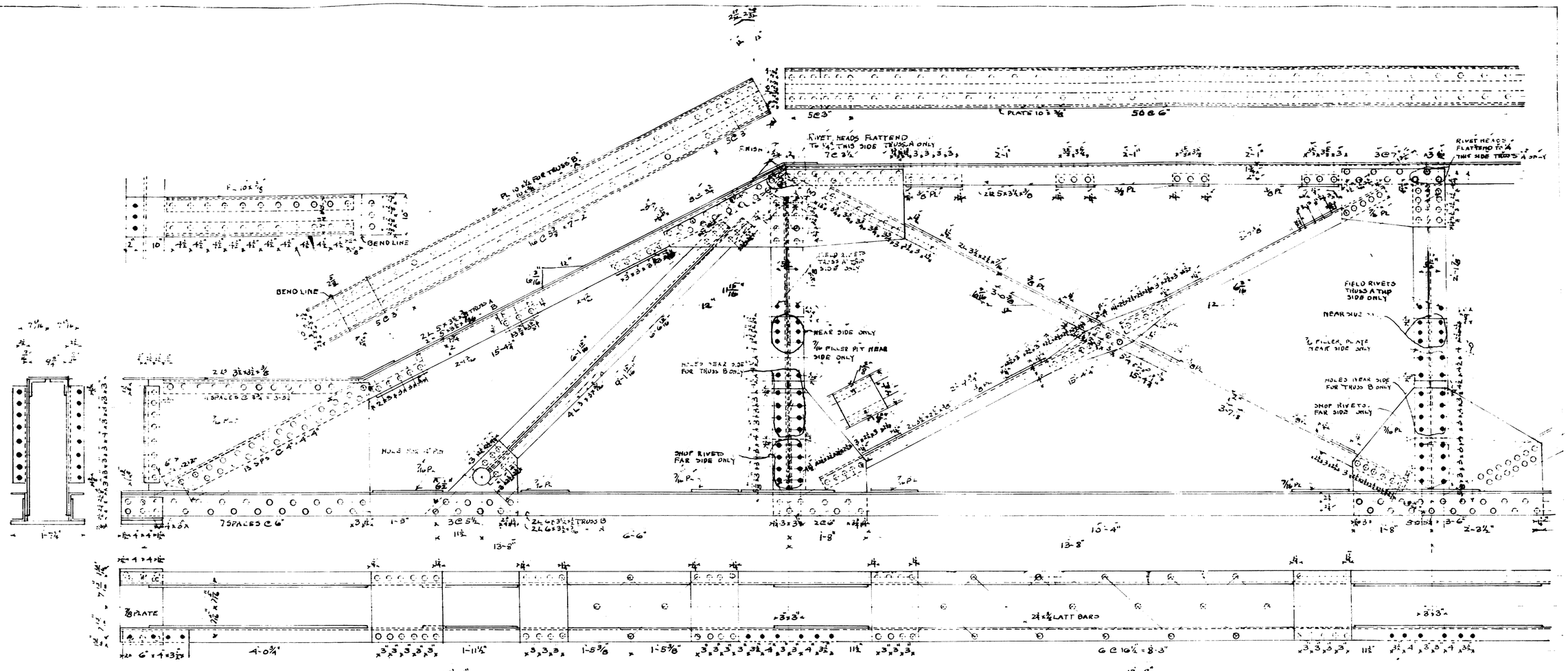
So. BRISTOL ME.

MAINE HIGHWAY COMMISSION

12 SHEETS SHEET 2

4-16

0 1 2 3 4 5 INCHES




B. E SAVAGE - CONTRACTOR
NEWBURY MASS.

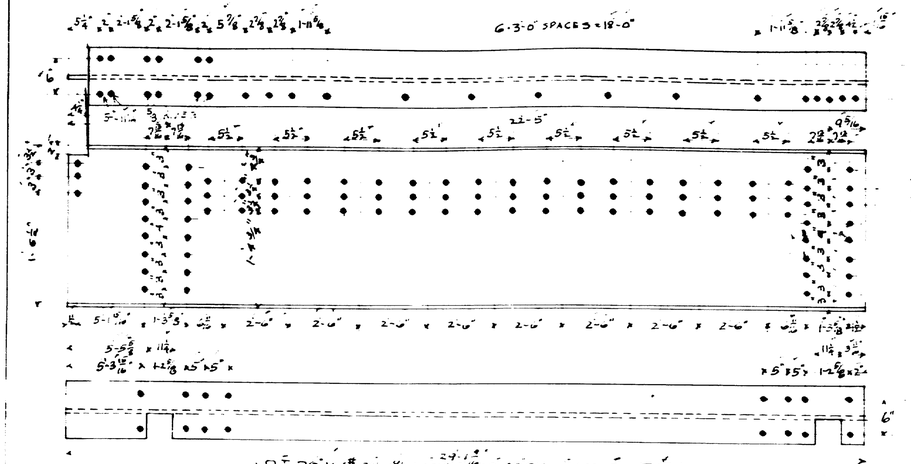
GUT BRIDGE

So. BRISTOL ME.

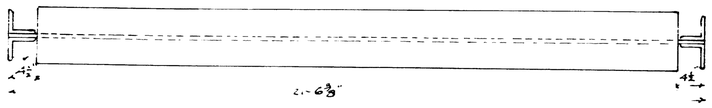
MAINE HIGHWAY COMMISSION

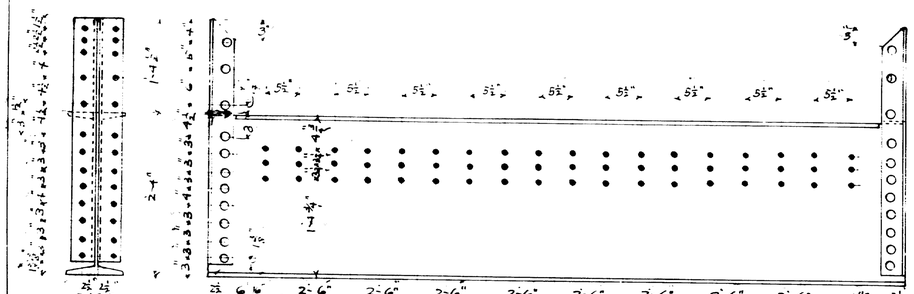
12 SHEETS SHEET 3

4-17

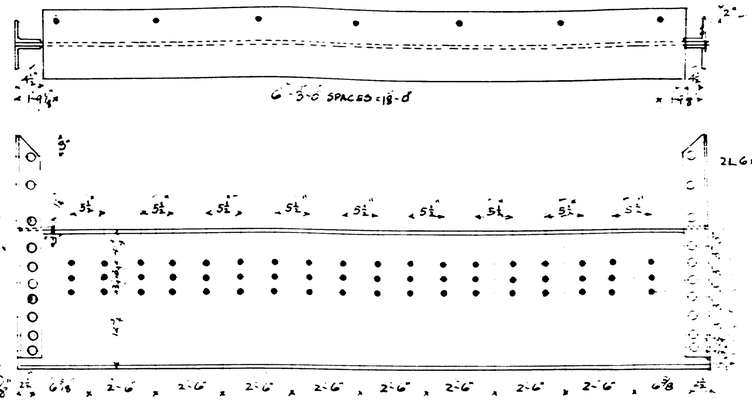



1 BI 28" 106# 24'-1 1/16 LONG REQD AS SHOWN MARK FB1.

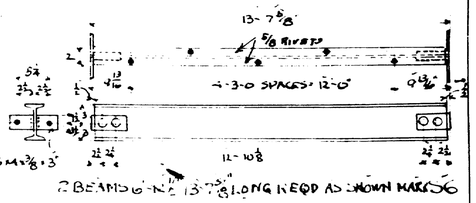



2 BI 28" 106# 21'-6 3/8" LONG REQD AS SHOWN MARK FB2.

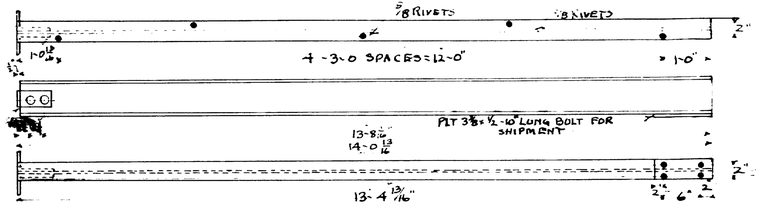



1 BG 24" 121# 21'-6 1/4" LONG REQD AS SHOWN MARK. FB3

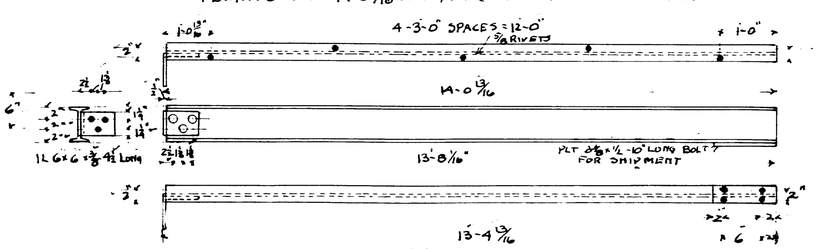



2 BEAMS 6"-12 1/2" 13'-7 5/8" LONG REQD AS SHOWN MARK S6

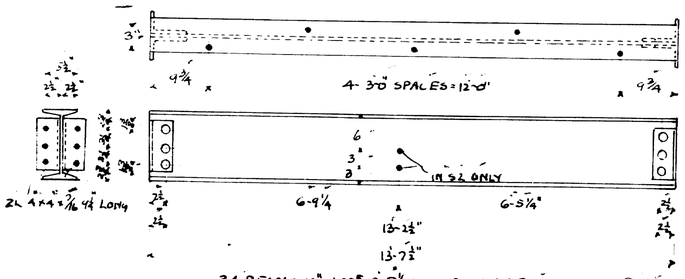
NOTES
ALL RIVETS 3/4" ϕ UNLESS OTHERWISE MARKED.
FIELD RIVETS SHOWN THUS ⊕ UNLESS OTHERWISE MARKED.
ALL RIVETS TO BE BUCKED UNLESS OTHERWISE MARKED.
ALL PARTS TO RECEIVE COAT RED LEAD AND OIL.
SURFACES IN CONTACT TO BE PAINTED BEFORE BEING RIVETED TOGETHER.
THE PARTS TO BE ASSEMBLED WHILE THE PAINT IS FRESH.



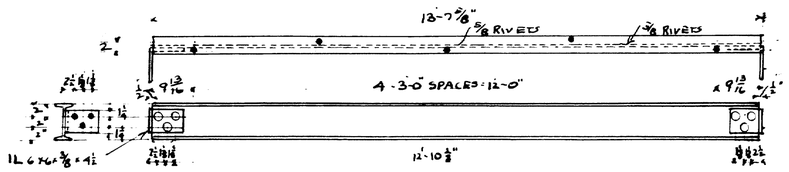

1 BEAM 6"-12 1/2" 14'-0 13/16" LONG REQD AS SHOWN MARK S3




1 BEAM 6"-12 1/2" 14'-0 7/16" LONG REQD AS SHOWN MARK S4 R
1 BEAM 6"-12 1/2" 14'-0 13/16" LONG REQD OPP HAND MARK S4 L




24 BEAMS 12" 40.8# 13'-7 1/2" LONG REQD AS SHOWN MARK S1.
3 " 12" 40.8 13'-7 1/2" LONG REQD AS SHOWN MARK S2.

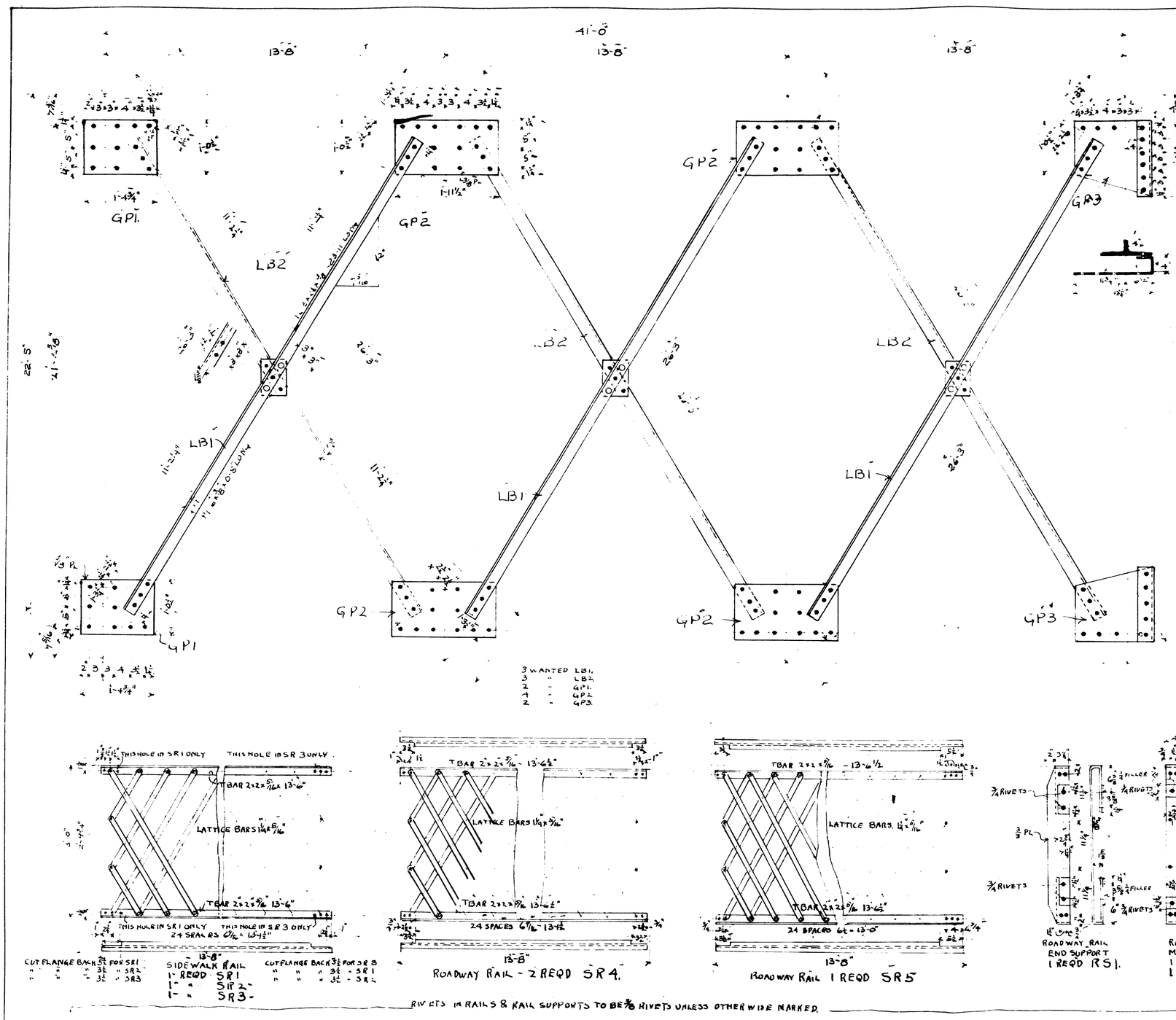



4 BEAMS 6"-12 1/2" 13'-7 5/8" LONG REQD AS SHOWN MARK S5

B. E. SAVAGE - CONTRACTOR
NEWBURY MASS
GUT BRIDGE
So. BRISTOL ME.
MAINE HIGHWAY COMMISSION
12 SHEETS SHEET

4-18

0 1 2 3 4 5 INCHES




ALL RIVETS ¾ DIA UNLESS OTHERWISE MARKED
FIELD RIVETS SHOWN SOLID UNLESS OTHERWISE MARKED
ALL RIVET HOLES ⅞ DIAM UNLESS OTHERWISE MARKED
ALL PARTS TO RECEIVE ONE COAT OF RED LEAD AND OIL
SURFACES IN CONTACT WITH EACH OTHER TO BE PAINTED BEFORE
BEING RIVETED TOGETHER
THE PARTS TO BE ASSEMBLED WHILE THE PAINT IS PLASTIC

RIVETS IN RAILS & RAIL SUPPORTS TO BE ⅞ RIVETS UNLESS OTHERWISE MARKED.

B. E SAVAGE - CONTRACTOR
NEWBURY MASS.

GUT BRIDGE

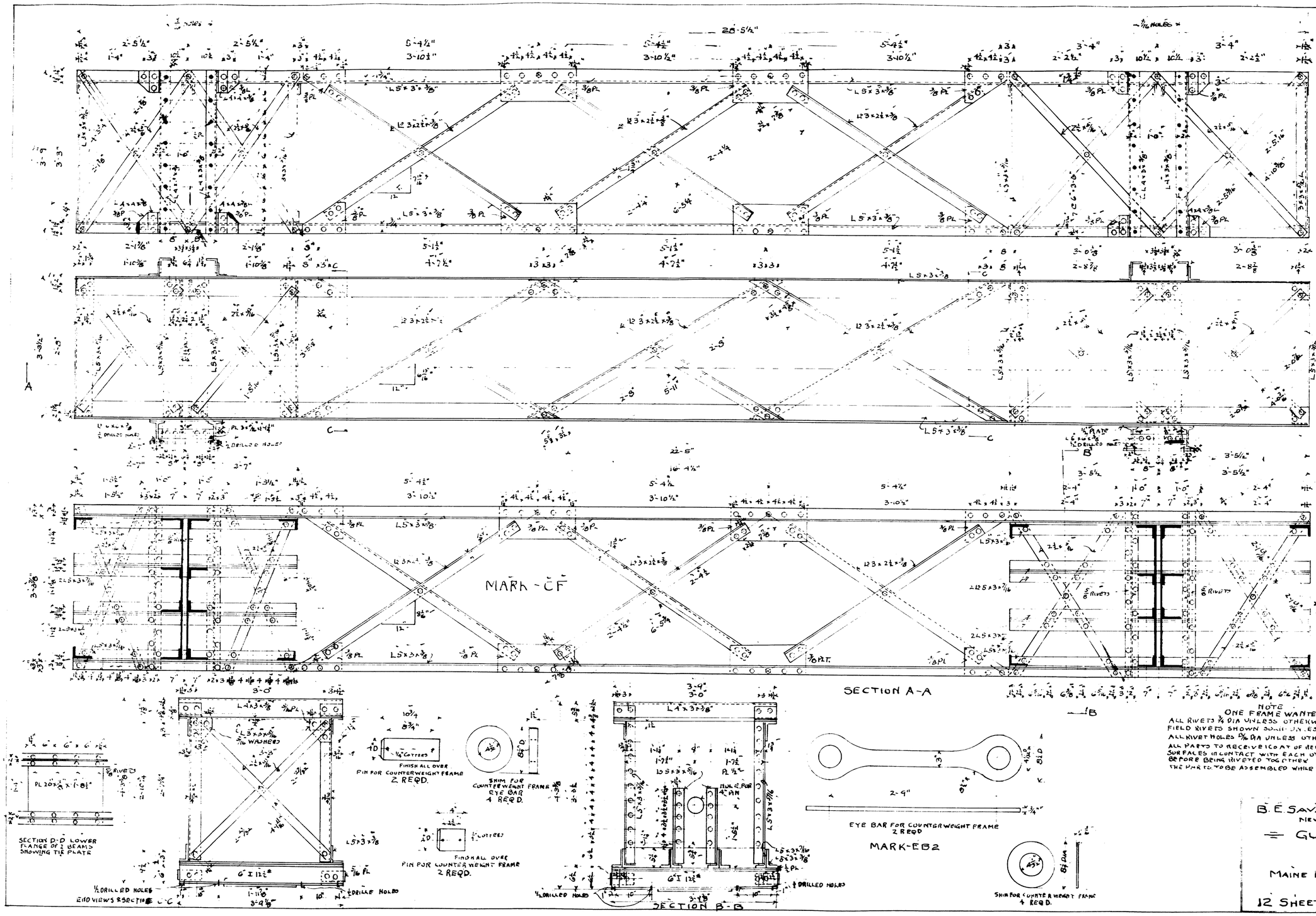
So. BRISTOL ME.

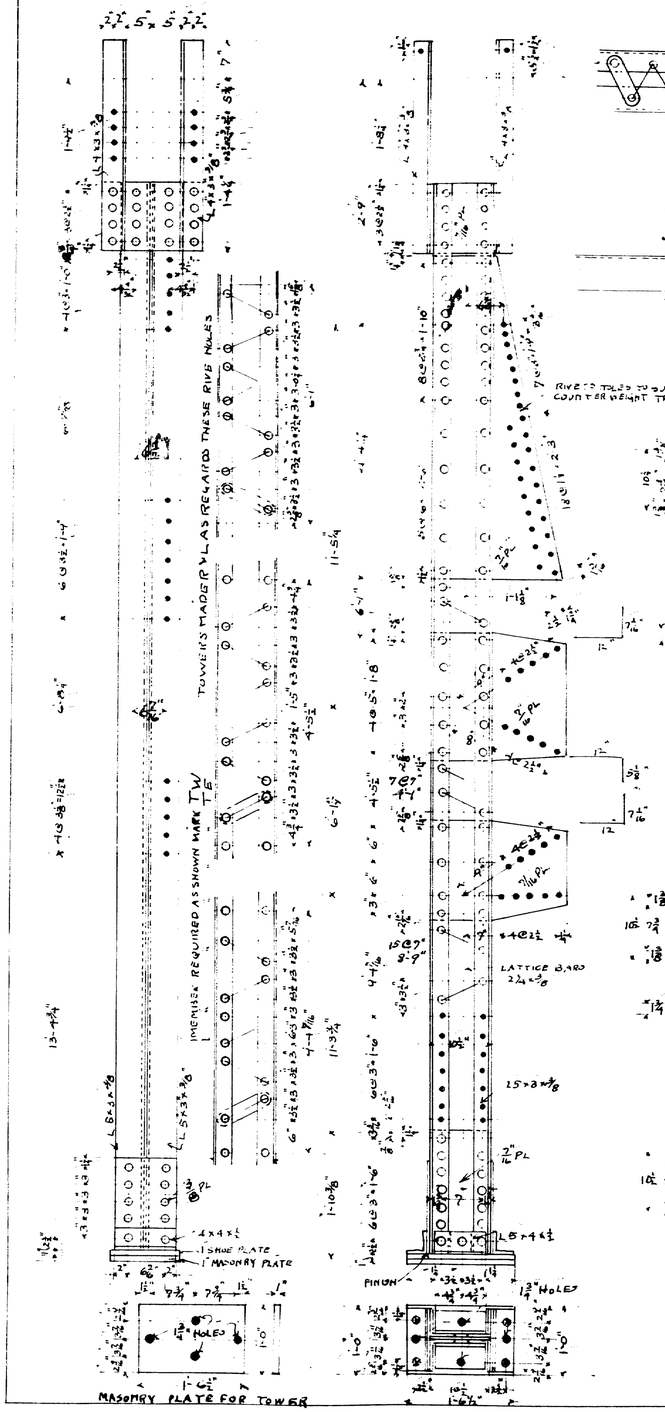
MAINE HIGHWAY COMMISSION

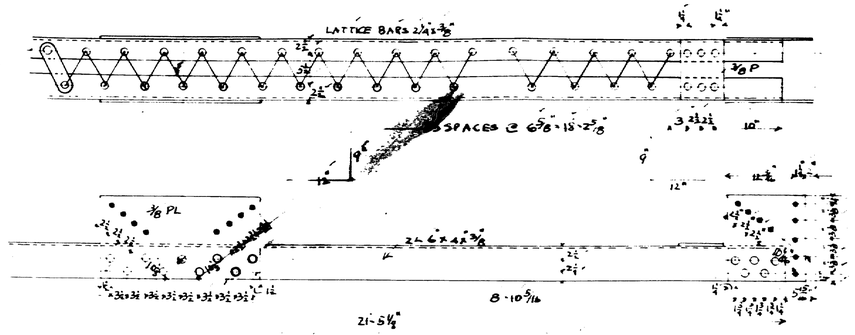
12 SHEETS SHEET 5

4-19

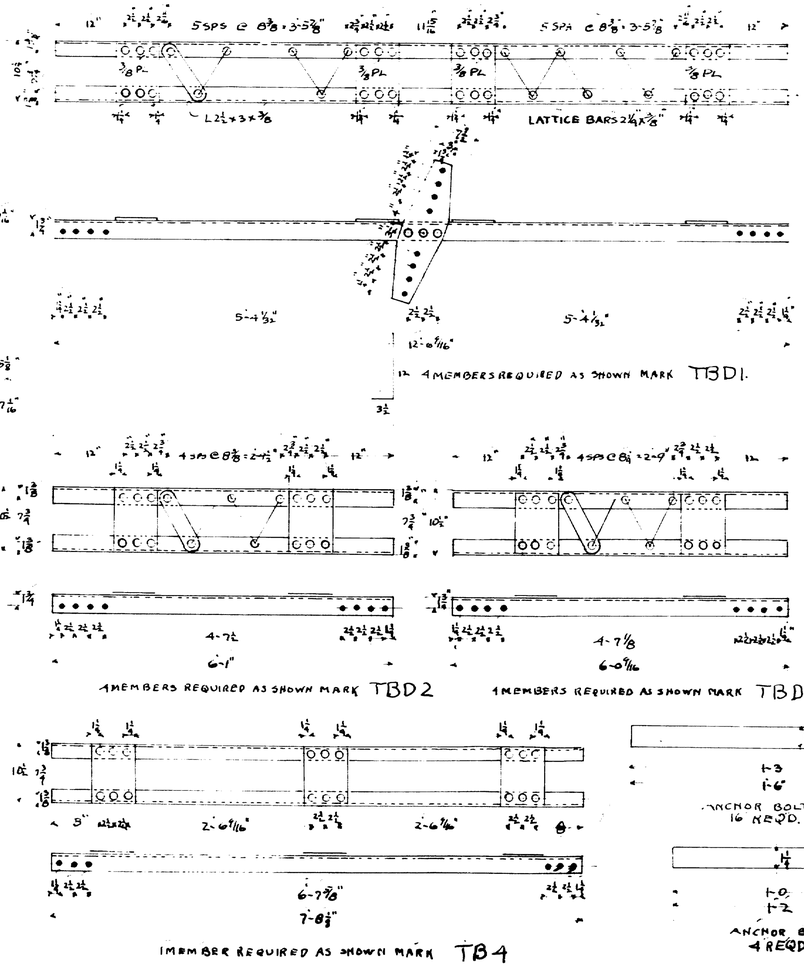
0 1 2 3 4 5 INCHES


MARK - CF
SECTION A-A
SECTION B-B
SECTION D-D LOWER FLANGE OF I BEAMS SHOWING TIE PLATE
END VIEWS SECTION C-C
PIN FOR COUNTERWEIGHT FRAME 2 REQD.
SHIM FOR COUNTERWEIGHT FRAME EYE BAR 4 REQD.
EYE BAR FOR COUNTERWEIGHT FRAME 2 REQD
MARK-EB2
SHIM FOR COUNTER WEIGHT FRAME 4 REQD.
NOTE
ONE FRAME WANTED.
ALL RIVETS ⅞ DIA UNLESS OTHERWISE MARKED
FIELD RIVETS SHOWN DOUBLE UNLESS OTHERWISE MARKED
ALL RIVET HOLES ⅞ DIA UNLESS OTHERWISE MARKED.
ALL PARTS TO RECEIVE ICOAT OF RED LEAD AND OIL
SURFACES IN CONTACT WITH EACH OTHER TO BE PAINTED
BEFORE BEING RIVETED TOGETHER
THE PARTS TO BE ASSEMBLED WHILE THE PAINT IS PLASTIC.
B. E. SAVAGE - CONTRACTOR
NEWBURY MASS
GUT BRIDGE
So. BRISTOL ME.
MAINE HIGHWAY COMMISSION
12 SHEETS
SHEET 6
4-20
0 1 2 3 4 5 INCHES




1 MEMBER REQUIRED AS SHOWN MARK TB3




4 MEMBERS REQUIRED AS SHOWN MARK TBD1.

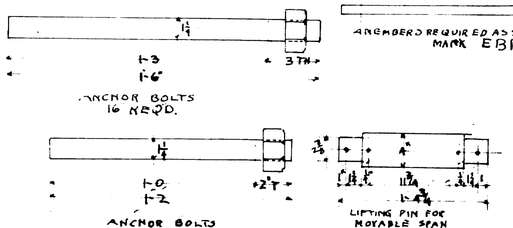


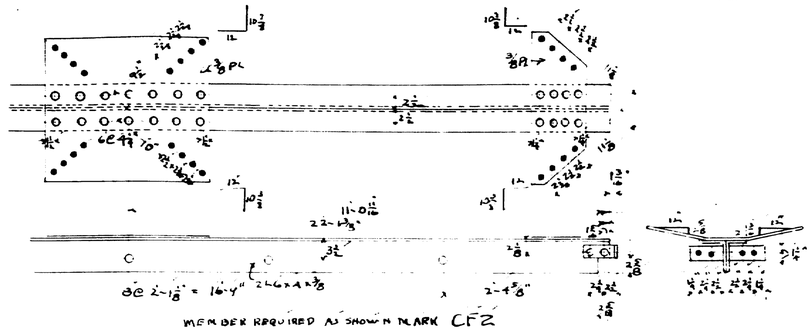

4 MEMBERS REQUIRED AS SHOWN MARK TBD2

4 MEMBERS REQUIRED AS SHOWN MARK TBD3

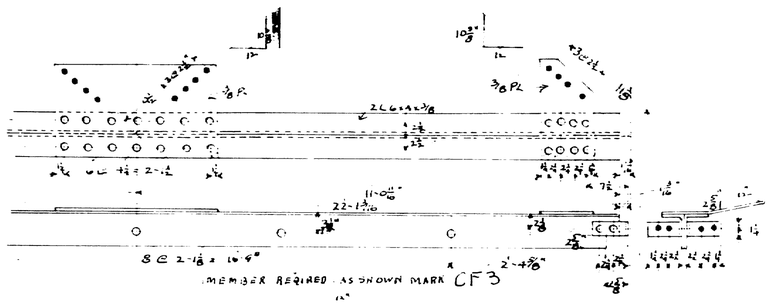



1 MEMBER REQUIRED AS SHOWN MARK TB4

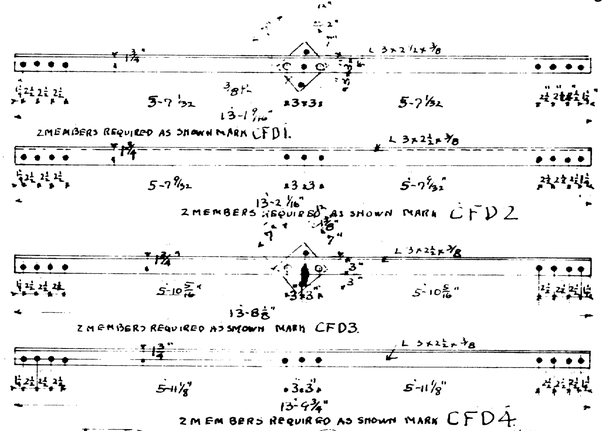


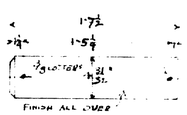



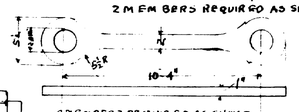

MEMBER REQUIRED AS SHOWN MARK CF2




1 MEMBER REQUIRED AS SHOWN MARK CF3




4 MEMBERS REQUIRED AS SHOWN MARK EB1.

NOTE
ALL RIVETS ¾ DIA UNLESS OTHERWISE MARKED.
ALL RIVET HOLES ⅞ DIA UNLESS OTHERWISE MARKED.
FIELD RIVETS SHOWN SOLID UNLESS OTHERWISE MARKED.
ALL PARTS TO RECEIVE COAT OF RED LEAD AND OIL.
SURFACES IN CONTACT WITH EACH OTHER TO BE PAINTED BEFORE BEING RIVETED TOGETHER.
THE PARTS TOBE ASSEMBLED WHILE THE PAINT IS PLASTIC

B. E. SAVAGE - CONTRACTOR
NEWBURY MASS.

GUT BRIDGE

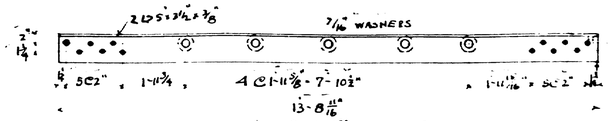
So. BRISTOL ME.

MAINE HIGHWAY COMMISSION

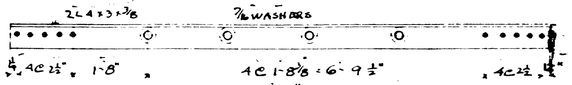
12 SHEETS SHEET 7.

4-21

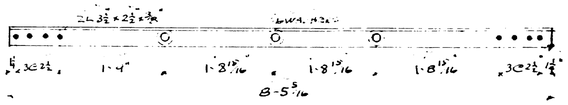
0 1 2 3 4 5 INCHES



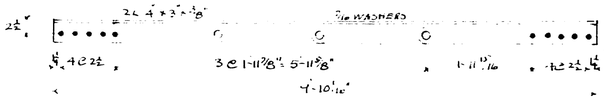

2 MEMBERS REQD AS SHOWN MARK W5



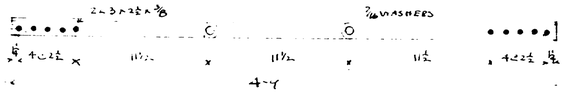

2 MEMBERS REQD AS SHOWN MARK W6



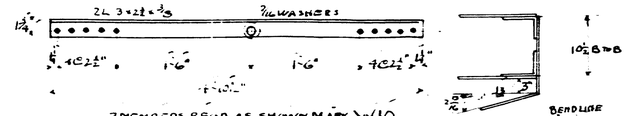

2 MEMBERS REQD AS SHOWN MARK W7



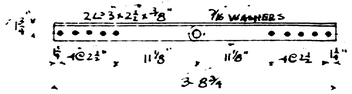

2 MEMBERS REQD AS SHOWN MARK W8



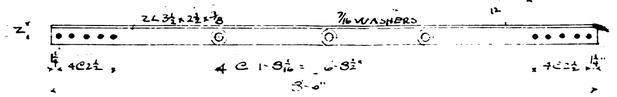

2 MEMBERS REQD AS SHOWN MARK W4



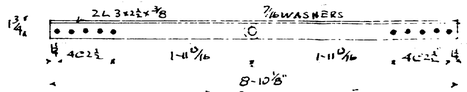

2 MEMBERS REQD AS SHOWN MARK W10



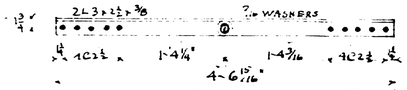

2 MEMBERS REQD AS SHOWN MARK W1.



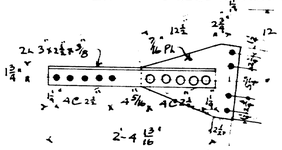

2 MEMBERS REQD AS SHOWN MARK W4.



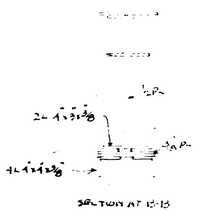

2 MEMBERS REQD AS SHOWN MARK W3.

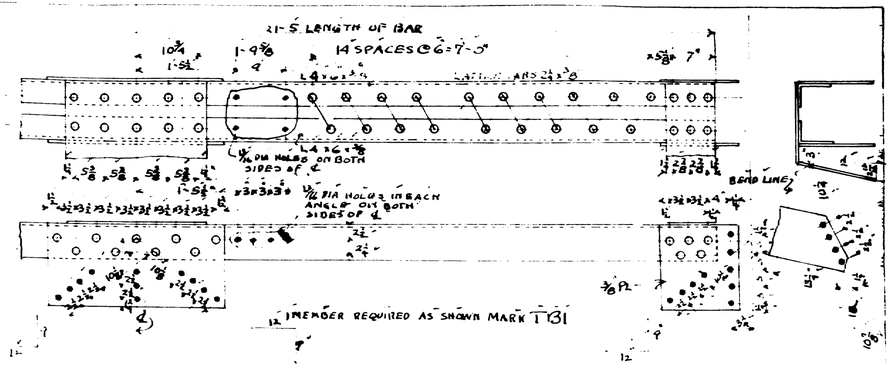



2 MEMBERS REQD AS SHOWN MARK W2.

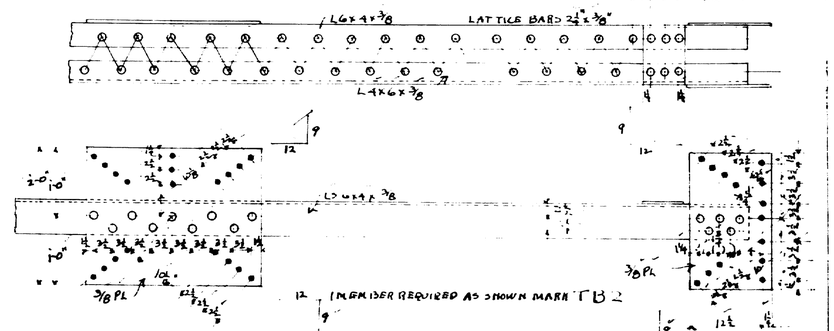



2 MEMBER REQD AS SHOWN MARK W1.

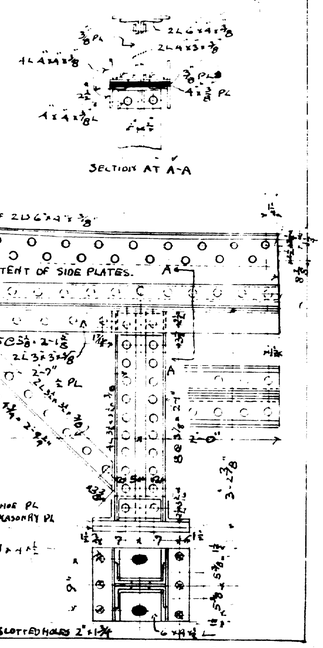


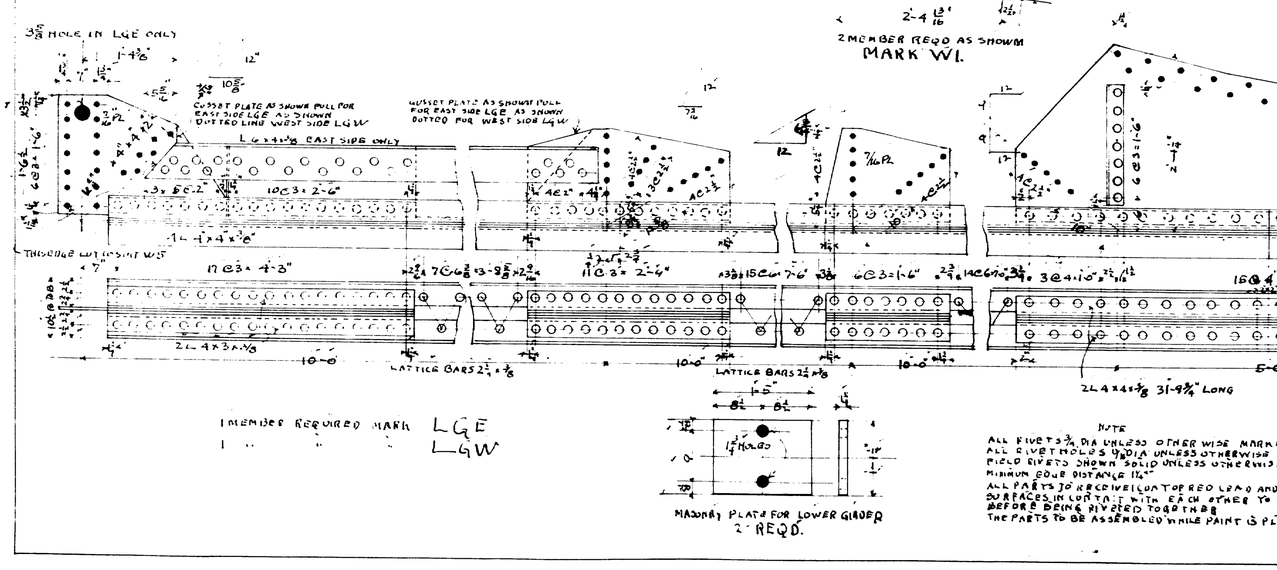




1 MEMBER REQUIRED AS SHOWN MARK TB1




1 MEMBER REQUIRED AS SHOWN MARK TB2




1 MEMBER REQUIRED MARK LGE
1 " " LGW




NOTE
ALL RIVETS ¾ DIA UNLESS OTHER WISE MARKED.
ALL RIVET HOLES ⅞ DIA UNLESS OTHERWISE MARKED
FIELD RIVETS SHOWN SOLID UNLESS OTHERWISE MARKED.
MINIMUM EDGE DISTANCE 1¼"
ALL PARTS TO RECEIVE ONE COAT OF RED LEAD AND OIL.
SURFACES IN CONTACT WITH EACH OTHER TO BE PAINTED BEFORE BEING RIVETED TOGETHER
THE PARTS TO BE ASSEMBLED WHILE PAINT IS PLASTIC.

B. E SAVAGE - CONTRACTOR
NEWBURY MASS

GUT BRIDGE

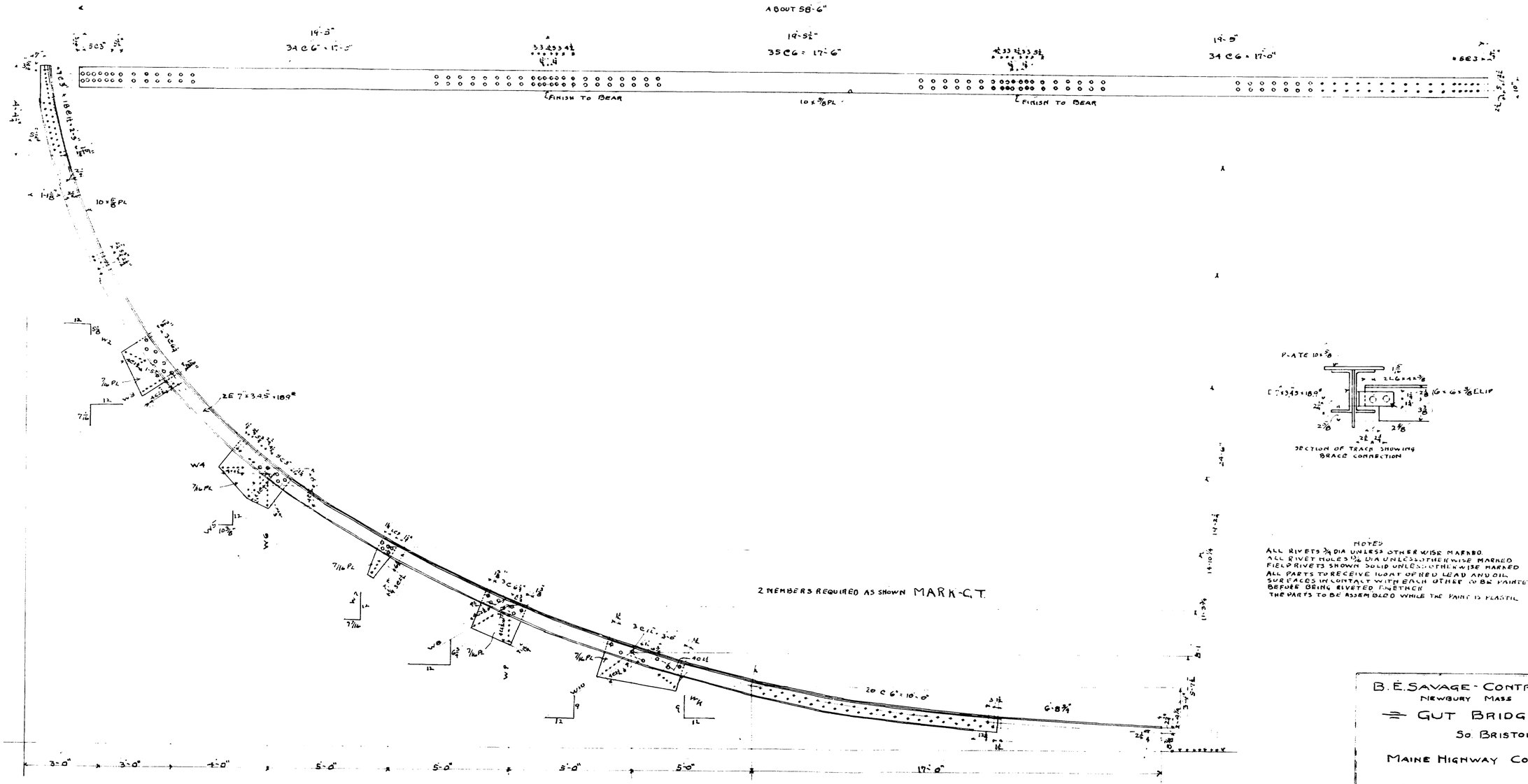
So. BRISTOL ME

MAINE HIGHWAY COMMISSION

12 SHEETS SHEET 8.

4-22

0 1 2 3 4 5 INCHES




B. E. SAVAGE - CONTRACTOR
NEWBURY MASS

GUT BRIDGE

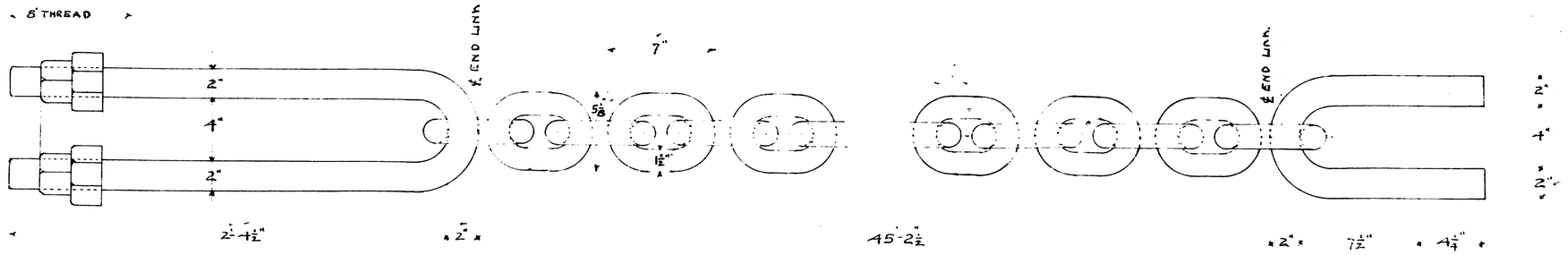
So. BRISTOL ME.

MAINE HIGHWAY COMMISSION

12 SHEETS SHEET 9.

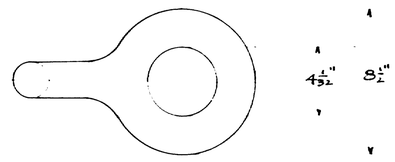
4-23

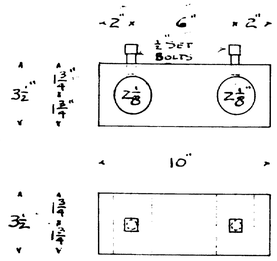
0 1 2 3 4 5 INCHES



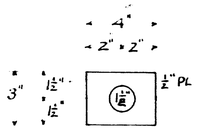

2 - 2" U BOLTS REQD. AS SHOWN.

2 - 1½ CRANE CHAINS WITH SHACKLE REQD AS SHOWN.

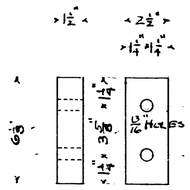


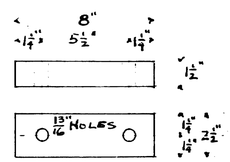

2 STUDS REQD.



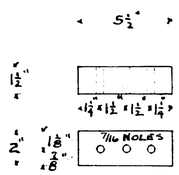

4 WASHERS REQD. AW.




2 FILLERS REQD. F1.




4 FILLERS REQD. F2




2 FILLERS REQD. F3

MATERIAL FROM
BRADLEE & CO.
HYDE WINDLASS CO
BATH IRON WORKS LTD.

B. E. SAVAGE - CONTRACTOR
NEWBURY MASS.

GUT BRIDGE

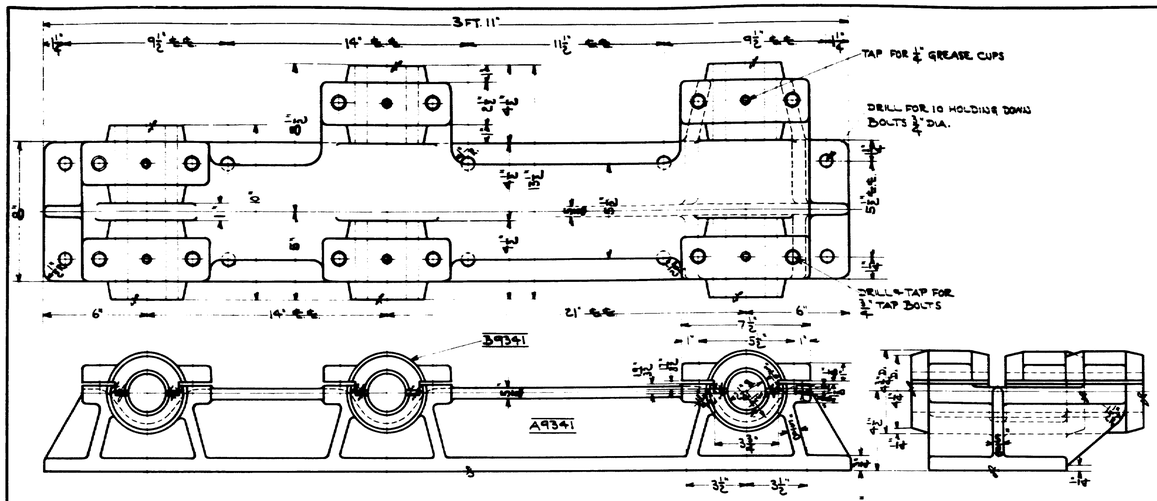
SO. BRISTOL ME.

MAINE HIGHWAY COMMISSION

12 SHEETS SHEET 10

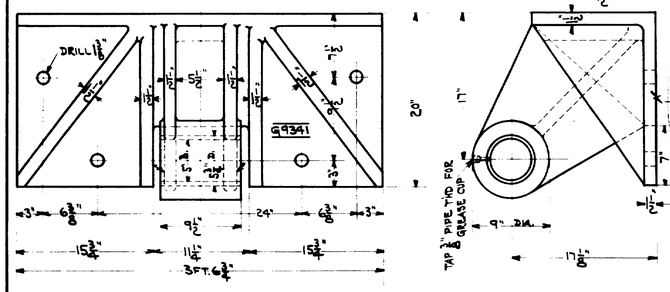
4-24

0 1 2 3 4 5 INCHES



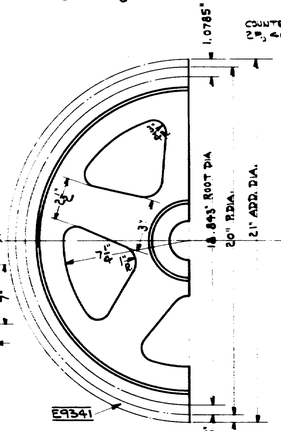

BEARING BEARING
SCALE, 3" = 1 FOOT.

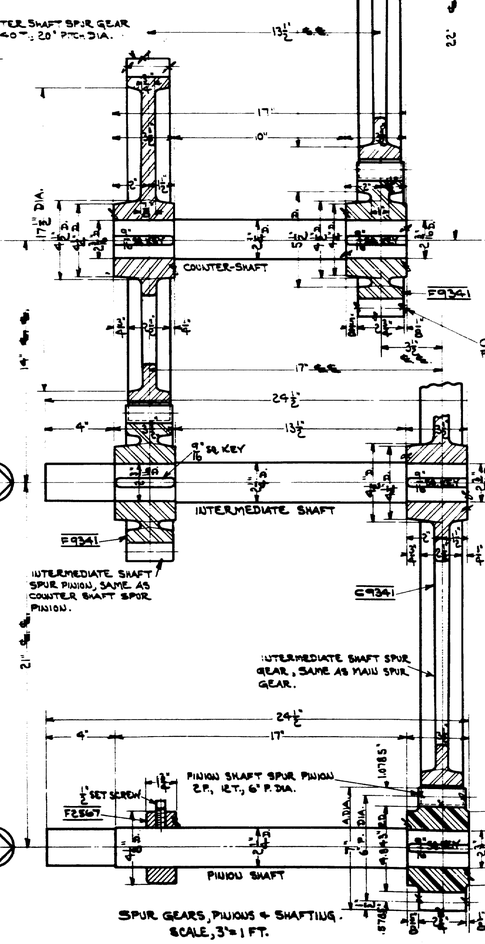
PHOSPHER BRONZE BEARING BOXES MADE FROM BUSHING 2¼" B, 2⅝" DIA., 4½" LONG. SPLIT IN MIDDLE WITH 3/16" SAW. HALF BOX PINNED TO BEARING & CAP.
1 BEARING REQUIRED C.S.
6 CAPS " C.S.

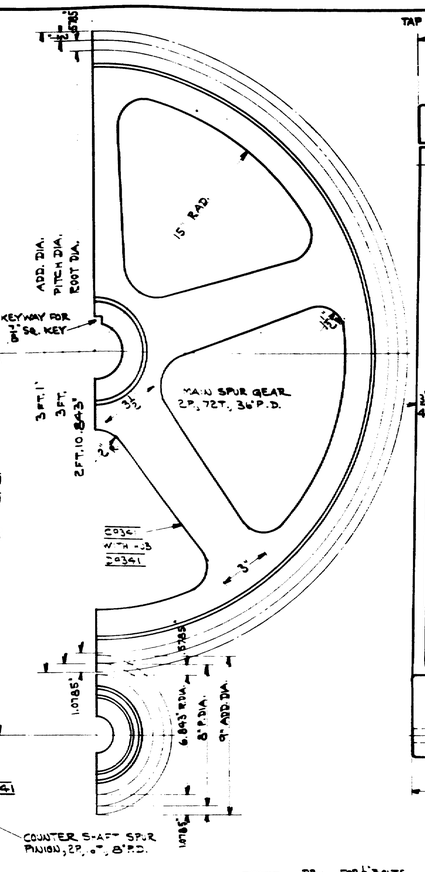


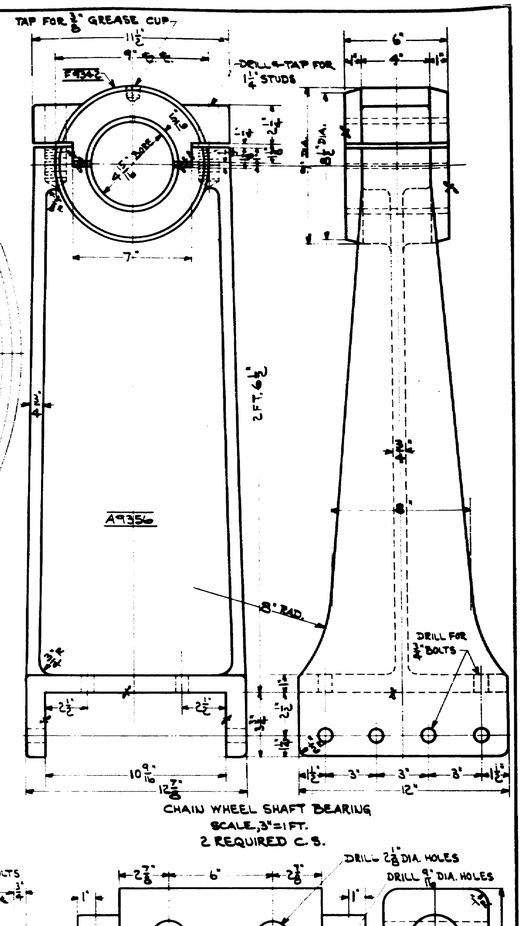

BEARING
SCALE, 1½" = 1 FOOT.
2 REQUIRED C. S.



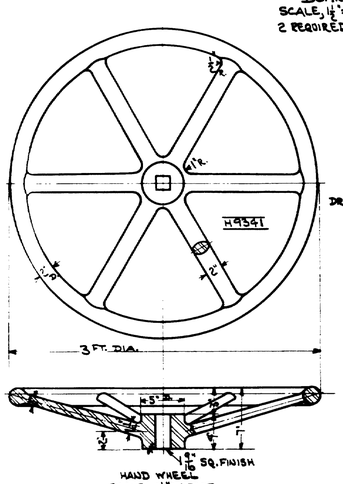



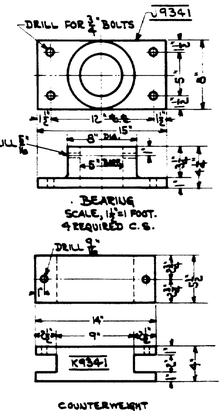




CHAIN WHEEL SHAFT BEARING
SCALE, 3" = 1 FT.
2 REQUIRED C.S.

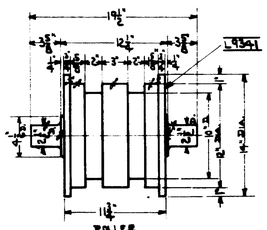



HAND WHEEL
SCALE, 1½" = 1 FOOT.
1 REQUIRED C.S.

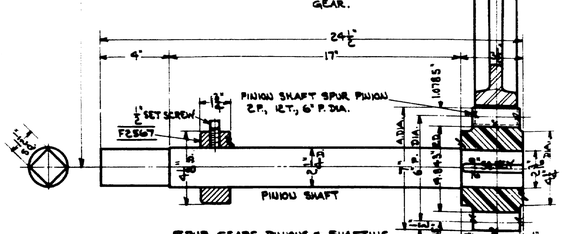



BEARING
SCALE, 1½" = 1 FOOT.
4 REQUIRED C.S.

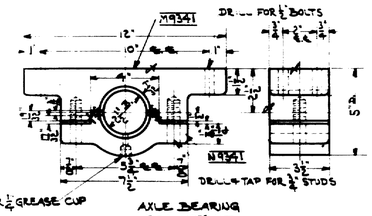
COUNTERWEIGHT
SCALE, 1½" = 1 FT.
16 REQUIRED C.I.



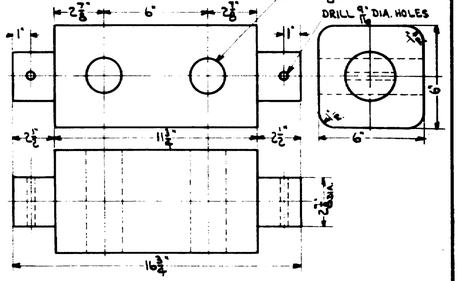

ROLLER
SCALE, 1½" = 1 FT.
4 REQUIRED C.S.




SPUR GEARS, PINIONS & SHAFTING.
SCALE, 3" = 1 FT.



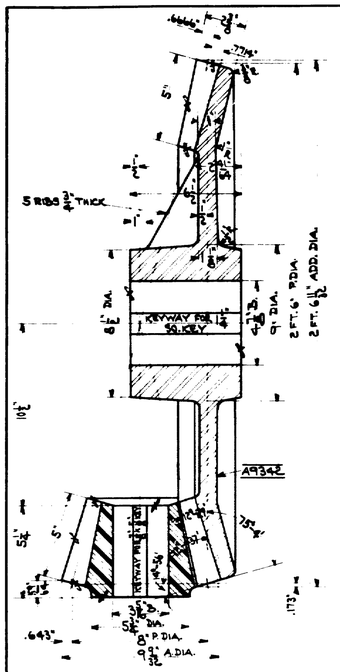

AXLE BEARING
SCALE, 3" = 1 FT.
PHOSPHER BRONZE BOX 2½" B, 2⅞" DIA., 3½" LONG HALF PINNED TO BEARING & CAP.
8 REQUIRED C.S.



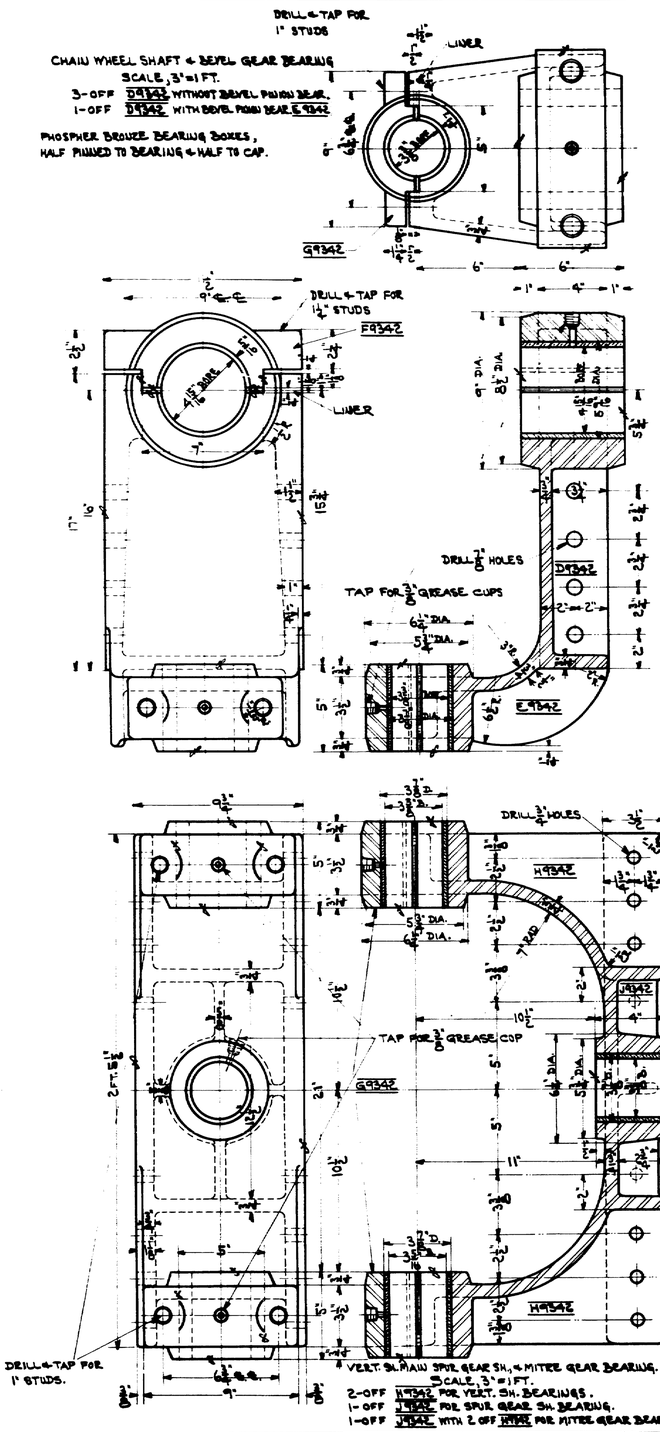

STEEL FORGING
SCALE, 3" = 1 FT.
2 REQUIRED.

B. E SAVAGE - CONTRACTOR
NEWBURY MASS
GUT BRIDGE
So. BRISTOL ME.
MAINE HIGHWAY COMMISSION
12 SHEETS SHEET

0 1 2 3 4 5 INCHES



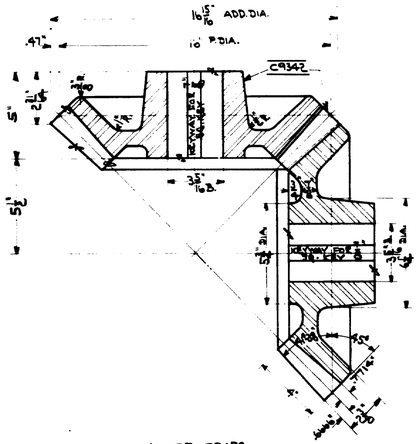

BEVEL GEAR & PINION
SCALE, 3" = 1 FT.
PINION; 1½ P., 12 T., 8" P. DIA.
GEAR; 1½ P., 45 T., 30" P. DIA.
RATIO; 3.75 TO 1, CUT TEETH.
1 REQUIRED OFF EACH.



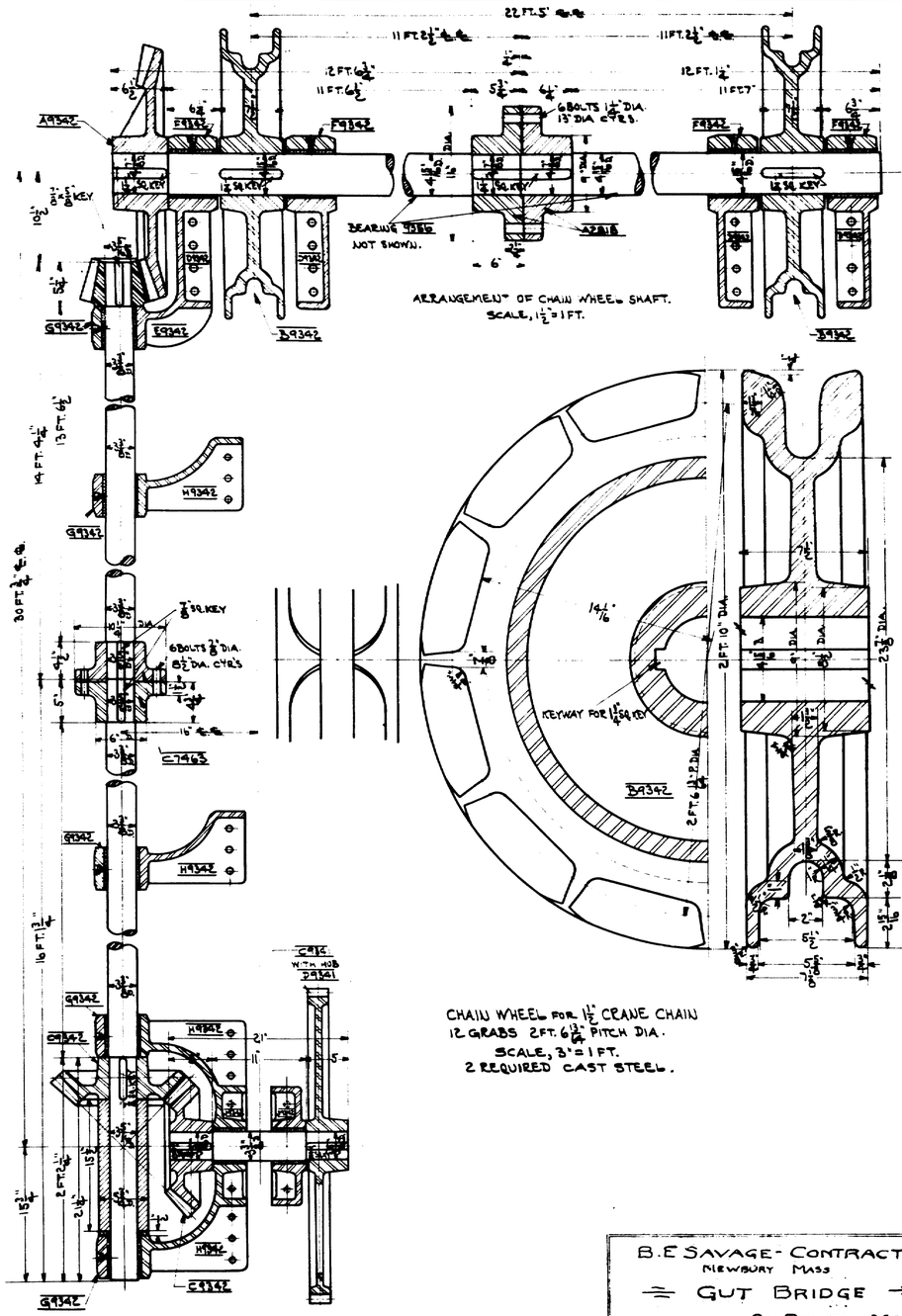

CHAIN WHEEL SHAFT & BEVEL GEAR BEARING
SCALE, 3" = 1 FT.
3-OFF F9342 WITHOUT BEVEL PINION BEAR.
1-OFF D9342 WITH BEVEL PINION BEAR. & F9342

PHOSPHER BRONZE BEARING BOXES,
HALF FITTED TO BEARING & HALF TO CAP.

VERT. SH. MAIN SPUR GEAR SH., & MITRE GEAR BEARING.
SCALE, 3" = 1 FT.
2-OFF H9342 FOR VERT. SH. BEARINGS.
1-OFF J9342 FOR SPUR GEAR SH. BEARING.
1-OFF J9342 WITH 2 OFF H9342 FOR MITRE GEAR BEARING.




MITRE GEARS
SCALE, 3" = 1 FT.
1½ P., 24 TEETH, 16" P. DIA., CUT TEETH.
2 REQUIRED C.S.




ARRANGEMENT OF CHAIN WHEEL SHAFT.
SCALE, 1½" = 1 FT.

CHAIN WHEEL FOR 1½" CRANE CHAIN
12 GRABS 2 FT. 6¾" PITCH DIA.
SCALE, 3" = 1 FT.
2 REQUIRED CAST STEEL.

ARRANGEMENT OF VERTICAL & SPUR GEAR SHAFTS
SCALE, 1½" = 1 FT.

B. E SAVAGE - CONTRACTOR
NEWBURY MASS

GUT BRIDGE

So. BRISTOL ME.

MAINE HIGHWAY COMMISSION

12 SHEETS. SHEET

4-36

0 1 2 3 4 5 INCHES

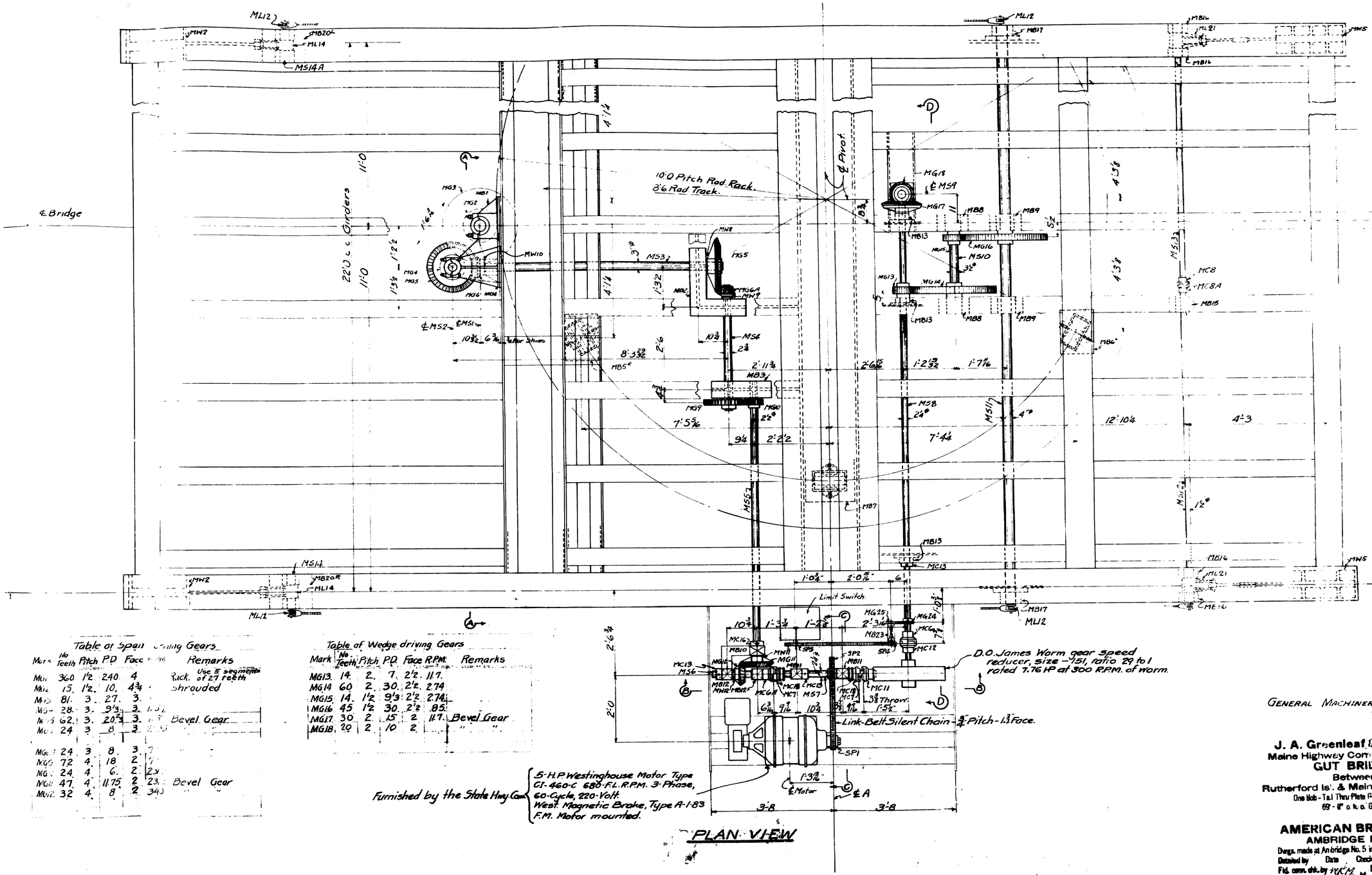



Table of Spur driving Gears

| Mark | No. Teeth | Pitch | P.D. | Face | R.P.M. | Remarks |
|---|---|---|---|---|---|---|
| MG1 | 360 | 1½ | 240. | 4 | | Rack. Use 5 segments of 27 teeth |
| MG2 | 15. | 1½ | 10. | 4¾ | | Shrouded |
| MG3 | 81. | 3. | 27. | 3. | | |
| MG4 | 28. | 3. | 9⅓ | 3. | | |
| MG5 | 62. | 3. | 20⅔ | 3. | | Bevel Gear |
| MG6 | 24 | 3 | 8. | 3 | | " " |
| MG7 | 24 | 3 | 8. | 3 | | |
| MG8 | 72 | 4 | 18 | 2 | | |
| MG9 | 24 | 4 | 6. | 2 | 2.74 | |
| MG10 | 47 | 4 | 11.75 | 2 | 2.34 | Bevel Gear |
| MG12 | 32 | 4 | 8. | 2 | 3.43 | " " |

Table of Wedge driving Gears

| Mark | No. Teeth | Pitch | P.D. | Face | R.P.M. | Remarks |
|---|---|---|---|---|---|---|
| MG13 | 14 | 2. | 7. | 2½ | 11.7. | |
| MG14 | 60 | 2. | 30. | 2½ | 2.74 | |
| MG15 | 14. | 1½ | 9⅓ | 2½ | 2.74 | |
| MG16 | 45 | 1½ | 30 | 2½ | .85 | |
| MG17 | 30 | 2. | 15 | 2 | 11.7. | Bevel Gear |
| MG18 | 20 | 2 | 10 | 2 | | " " |

Furnished by the State Hwy. Com. { 5-H.P. Westinghouse Motor Type CT-460-C 680-F.L.R.P.M. 3-Phase, 60-Cycle, 220-Volt. West. Magnetic Brake, Type A-1-83 F.M. Motor mounted.

Limit Switch.

D.O. James Worm gear speed reducer, size -151, ratio 29 to 1 rated 7.76 HP at 300 R.P.M. of worm.

Link-Belt Silent Chain - ¾ Pitch - 1¾ Face.

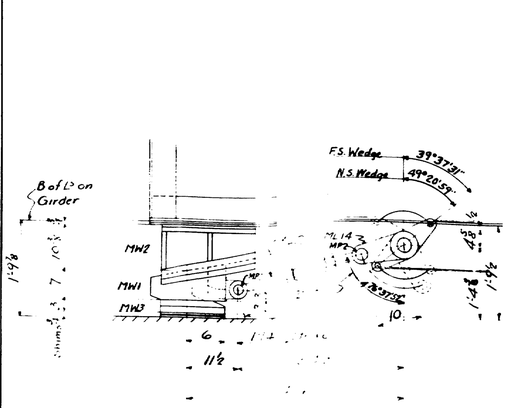
GENERAL MACHINERY DRAWING

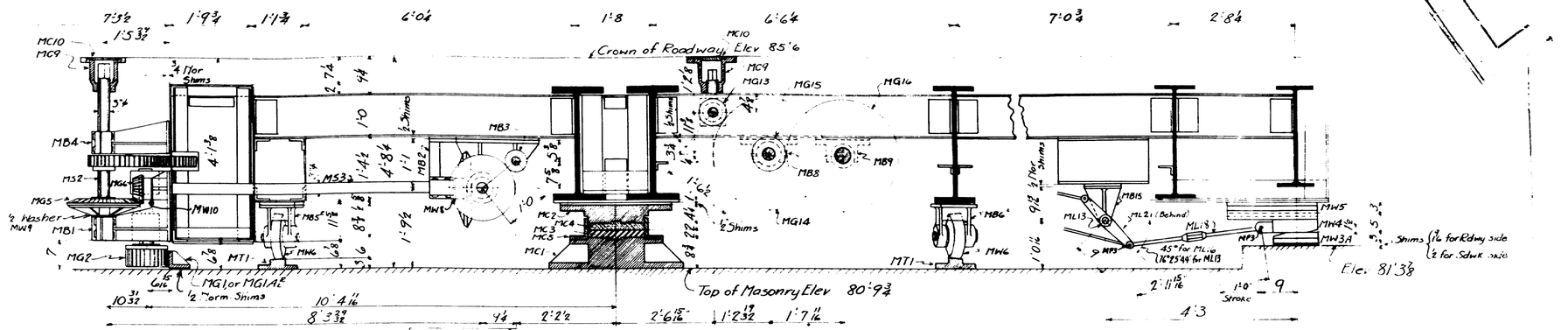
J. A. Greenleaf & Sons Co
Maine Highway Comm. Bridge Div.
GUT BRIDGE
Between
Rutherford Is'd. & Mainland So. Bristol
One Bob-Tail Thru Plate Girder Draw Span.
69'-0" c. to c. Girders.

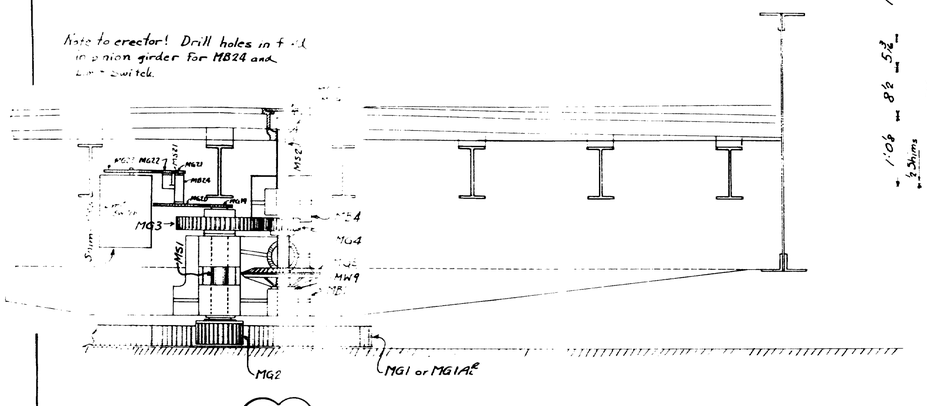
AMERICAN BRIDGE CO.
AMBRIDGE PLANT
Dwgs. made at Ambridge No. 5 in charge of Reehl
Detailed by Date Checked by Date
Fld. comm. chk. by W.K.M. Date 7/3/30
ORDER NO G-3307-M SHEET NO. E1

Rev 7-2-30

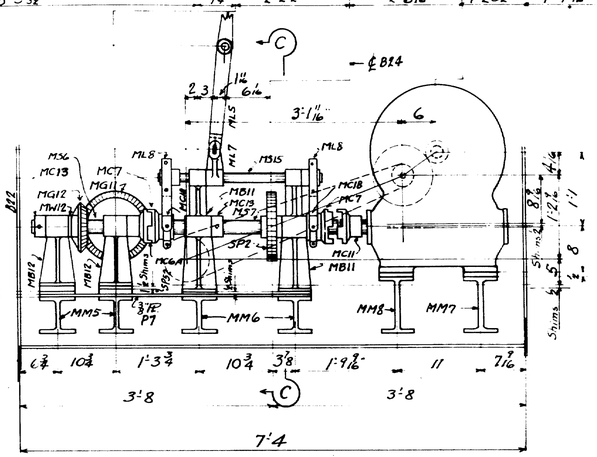
0 1 2 3 4 5 INCHES



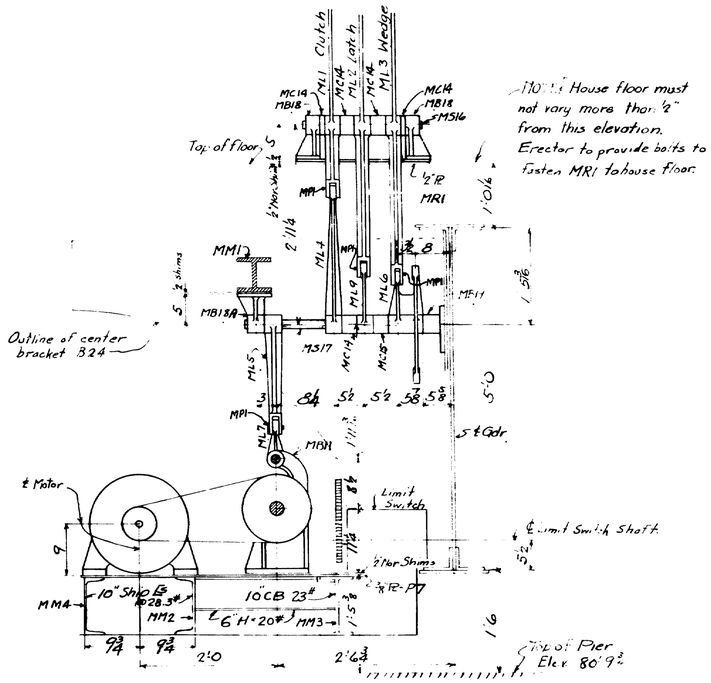




A-A

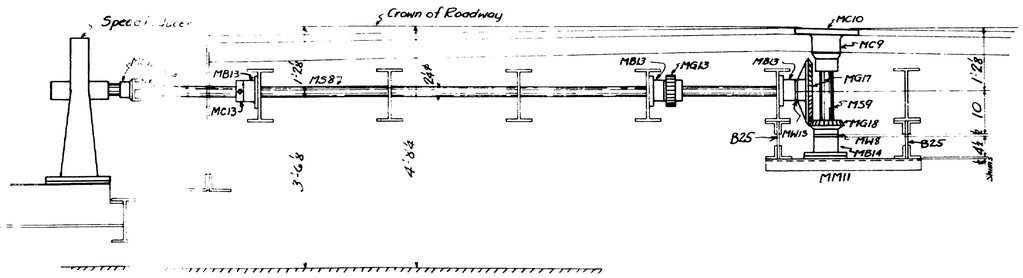



B-B




C-C

Note: House floor must not vary more than ½" from this elevation. Erector to provide bolts to fasten MR1 to house floor.




D-D

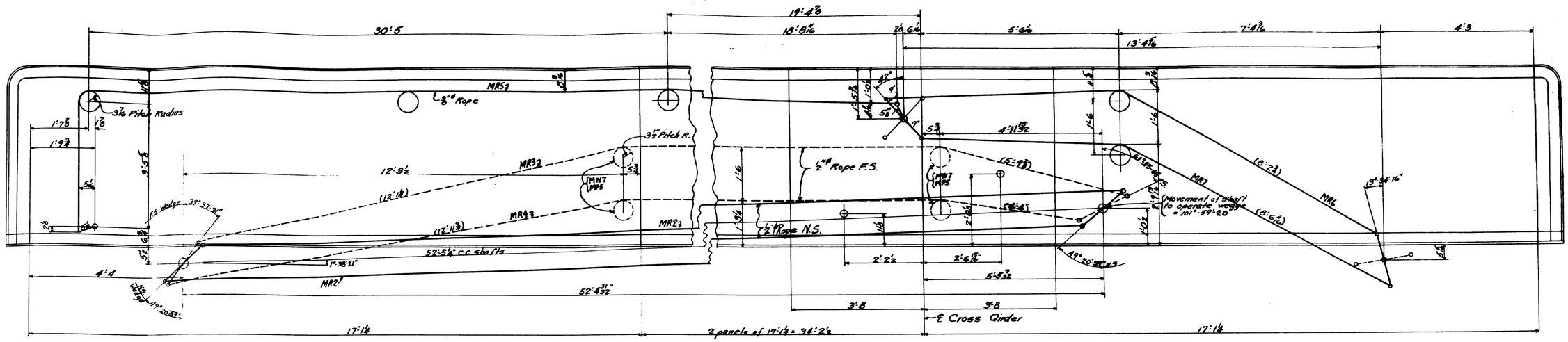
**J. A. Greenleaf & Sons Co.**
Maine Highway Comm. Bridge Div.
**GUT BRIDGE**
Between
**Rutherford Isl. & Mainland So. Bristol**
One Bob - Tail Thru Plate Girder Draw Span.
69' - 11" c. to c. Girders.

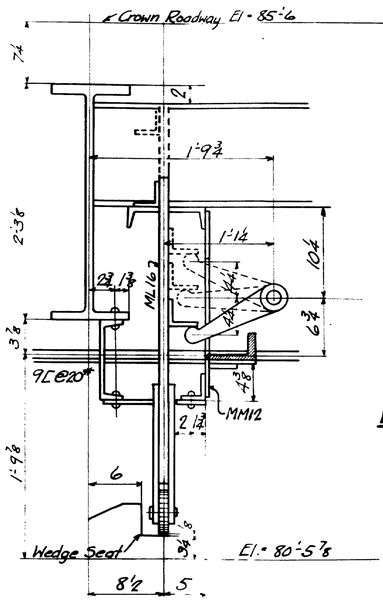
**AMERICAN BRIDGE CO.**
**AMBRIDGE PLANT**
Dwgs. made at Ambridge No. 5 in charge of Riehl
Detailed by Date Checked by L.H.E. Date 6-30-30
Fld. conn. chk. by N.K.M. Date 7/3/30
ORDER NO G3377M SHEET NO. E2

COPYRIGHT AMERICAN BRIDGE COMPANY 1930.

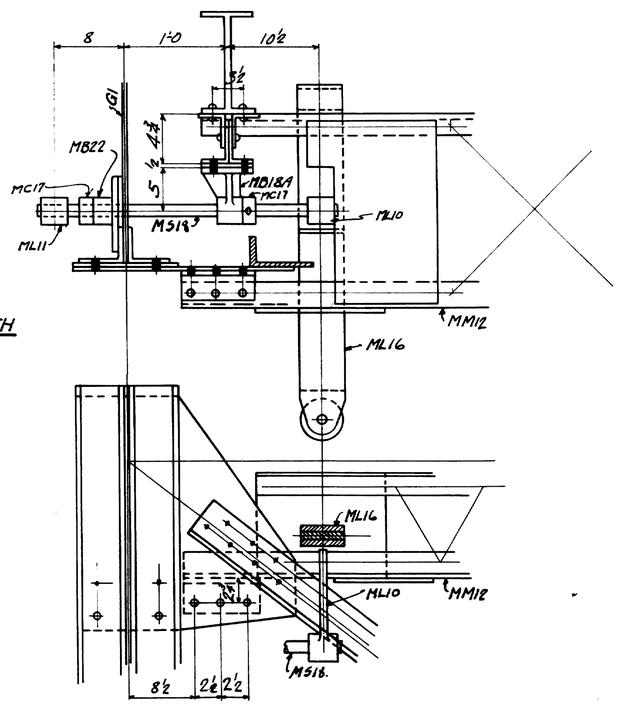
Rev 7-3-30

0 1 2 3 4 5 INCHES




END LATCH




J. A. Greenleaf & Sons Co.
Maine Highway Comm. Bridge Div.
**GUT BRIDGE**
Between
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One Bob-Tail Thru Plate Girder Draw Span.
69'-11" c. to c. Girders.

**AMERICAN BRIDGE CO.**
AMBRIDGE PLANT
Dwgs. made at Ambridge No. 5 in charge of Roehl
Detailed by Date Checked by LAE Date 6-24-30
Fld. conn. chk. by WKH Date 7/3/30
ORDER NO G3377M SHEET NO. 23

Rev 7-3-30

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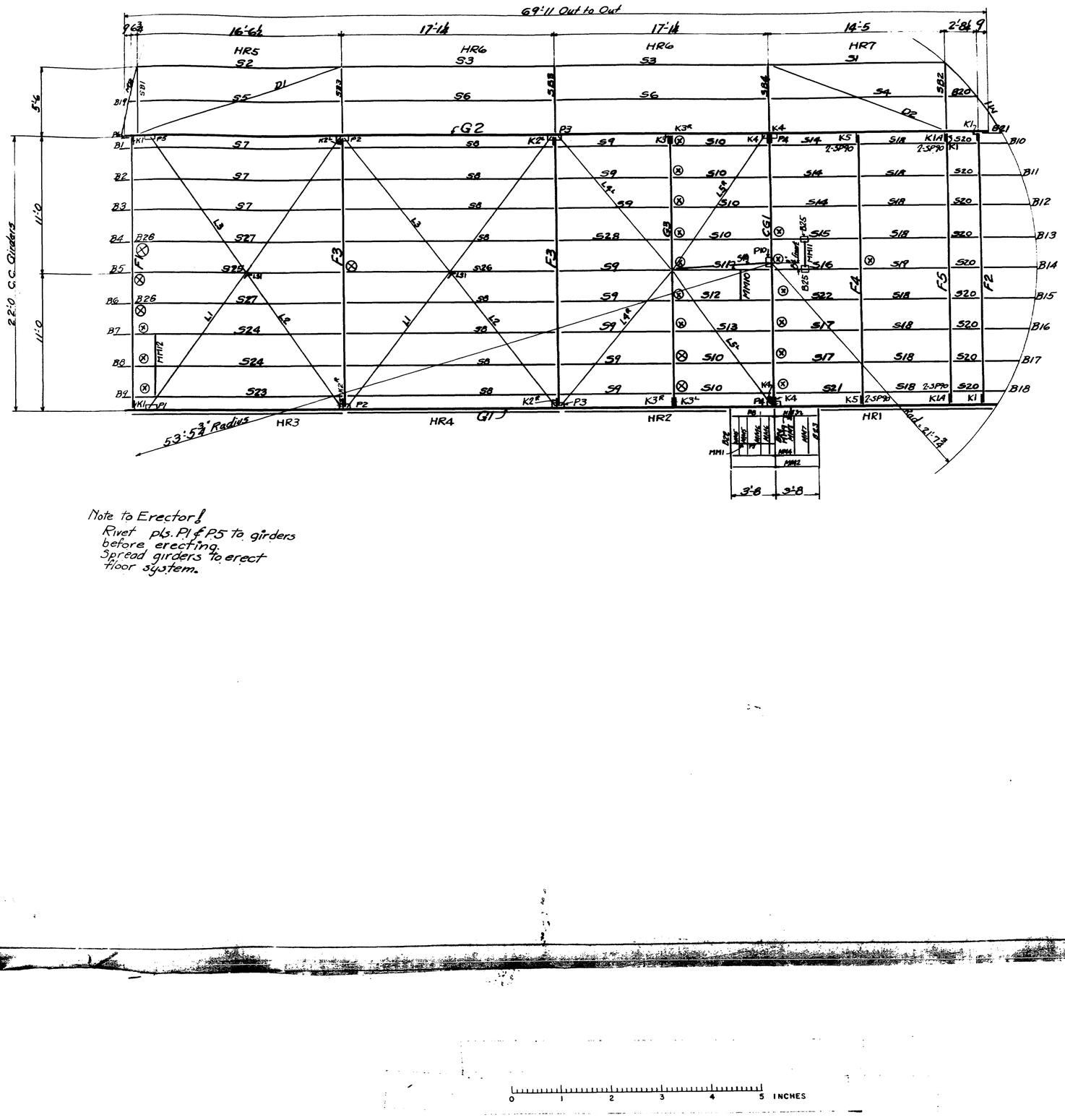
0 1 2 3 4 5 INCHES




Note to Erector!
Rivet pls. P1 & P5 to girders before erecting.
Spread girders to erect floor system.

| Sh No | Contents |
|---|---|
| E1 | Gen. Machinery |
| E2 | (do) |
| E3 | Ropes |
| E4 | Erection Diagram |
| 1 | Girders |
| 2 | (do) |
| 3 | (do) |
| 4 | (do) |
| 5 | Floor Beams |
| 6 | Pinion Girder |
| 7 | Brackets |
| 8 | Laterals |
| 9 | Mach Supports |
| 10 | Brackets |
| 11 | Handrailing |
| 12 | Mach Supports |
| 13 | Rack & Track |
| 14 | Main Pinion Bearing |
| 15 | Bearings |
| 16 | Gears & Pinions |
| 17 | Center |
| 18 | Gears & Bearings |
| 19 | Wedges & Couplings |
| 20 | Bearings |
| 21 | Levers |
| 22 | Shafts |
| 23 | Bearings |
| 24 | Misc. |
| 25 | Shims |
| 26 | Stringers |
| 27 | Bracing |
| 28 | Mach Struts & Shims |
| 29 | Misc |
| 30 | Gears Etc |
| 31 | Bolts |
| EF24 | Erectors List |

Rev 7/3/30

**J. A. Greenleaf & Sons Co.**
Maine Highway Comm. Bridge Div.
**GUT BRIDGE**
Between
Rutherford Isl. & Mainland So. Bristol
One Bob-Tail Thru Plate Girder Draw Span.
69'-11" c. to c. Girders.

**AMERICAN BRIDGE CO.**
AMBRIDGE PLANT
Dwgs. made at Ambridge No. 5 in charge of Reald
Detailed by AE Date Checked by AEF Date
File num. ckd. by W.K.P. Date 7/3/30
ORDER NO. G 2 3 [illegible]

0 1 2 3 4 5 INCHES

Cov 12x5/16 x 69'-10 3/8

Cov 12x5/16 x 59'-0 3/4

Cov 12x5/16 x 9'-11 15/16

69'-10 3/8 b.b Ls

Web 59"x1/2 x 25'-11 1/2

2Ls 5x4x1/2 x 69'-10 3/8

2Ls 5x4x1/2 x 40'-7 1/2

Web 59"x1/2 x 13'-10

G1

WORK SHEETS 1-2-3&4 TOGETHER

SECTION A

SECTION B

SECTION C

SECTION D

SECTION E

SECTION H

SECTION K

SECTION M

**J. A. Greenleaf & Sons Co.**
Maine Highway Comm. Bridge Div.
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Between
Rutherford Isl. & Mainland So. Bristol
One Bob-Tail Thru Plate Girder Draw Span.
69'-11" c. to c. Girders.

**AMERICAN BRIDGE CO.**
AMBRIDGE PLANT
Design by Ambridge No. 5 in charge of Reehl
Detailed by G.H.F. Date 5/26 Checked by H.F.R. Date 6/27/30
Fld. comm. chk. by WKM Date 6/27/30
ORDER NO. G3377 S SHEET NO. 1

Rev 7/7/30
Rev 6/27/30
Rev 6/26/30
Rev 6-24-30
Rev. 6-20-30

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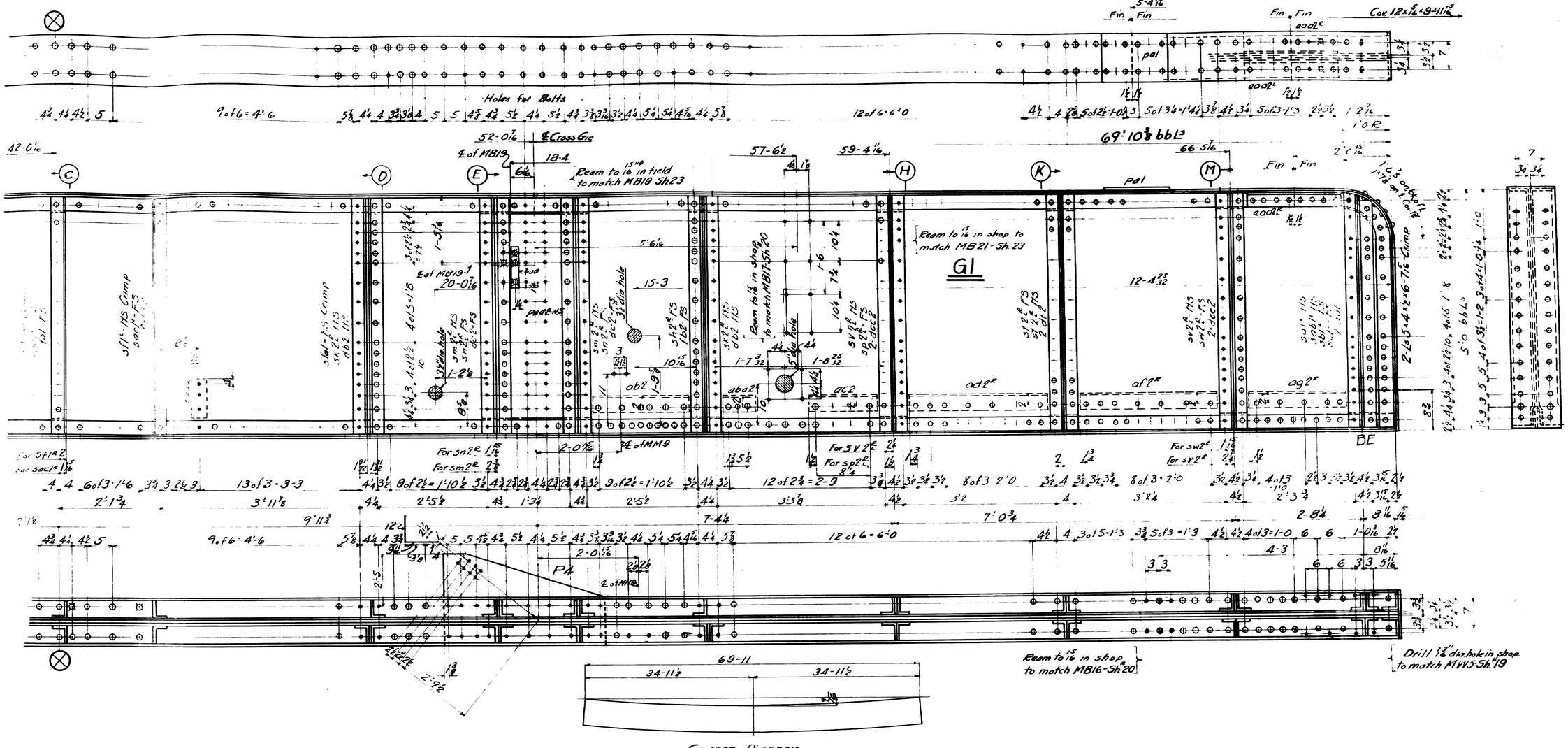
10-5




Rev. 7-1-30
Rev 6-21-30

WORK SHEETS 1-2-3-4 TOGETHER

LIFTING WGT. 9 1/2 TONS

ONE ROADWAY GIRDER - G1 = 17429.

| | | |

Remainder of Spacing in Top Flg. same as shown for G1 on Sheet #1 except all rivets shop driven

Remainder of Spacing in Bott. Flg. same as Shown for G1 Sheet #1

Ream to 15/16 in Shop to match MW2-Sh#19

Ream to 1 1/16 in shop to match MB20.-Sh23

SECTION N

SECTION P

SECTION R

CAMBER DIAGRAM
Reverse Camber

WORK SHEETS 1-2-3 & 4 TOGETHER

J. A. Greenleaf & Sons Co.
Maine Highway Comm. Bridge Div.
GUT BRIDGE
Between
Rutherford Isl. & Mainland So. Bristol
One Bob-Tail Thru Plate Girder Draw Span.
69'-11" c. to c. Girders

AMERICAN BRIDGE CO.
AMBRIDGE PLANT
Dwgs. made at Ambridge No. 5 in charge of Reehl
Detailed by GAF Date ... Checked by ... Date ...
Fld. conn. chk. by ... Date ...
ORDER NO G3377-S SHEET NO. 3

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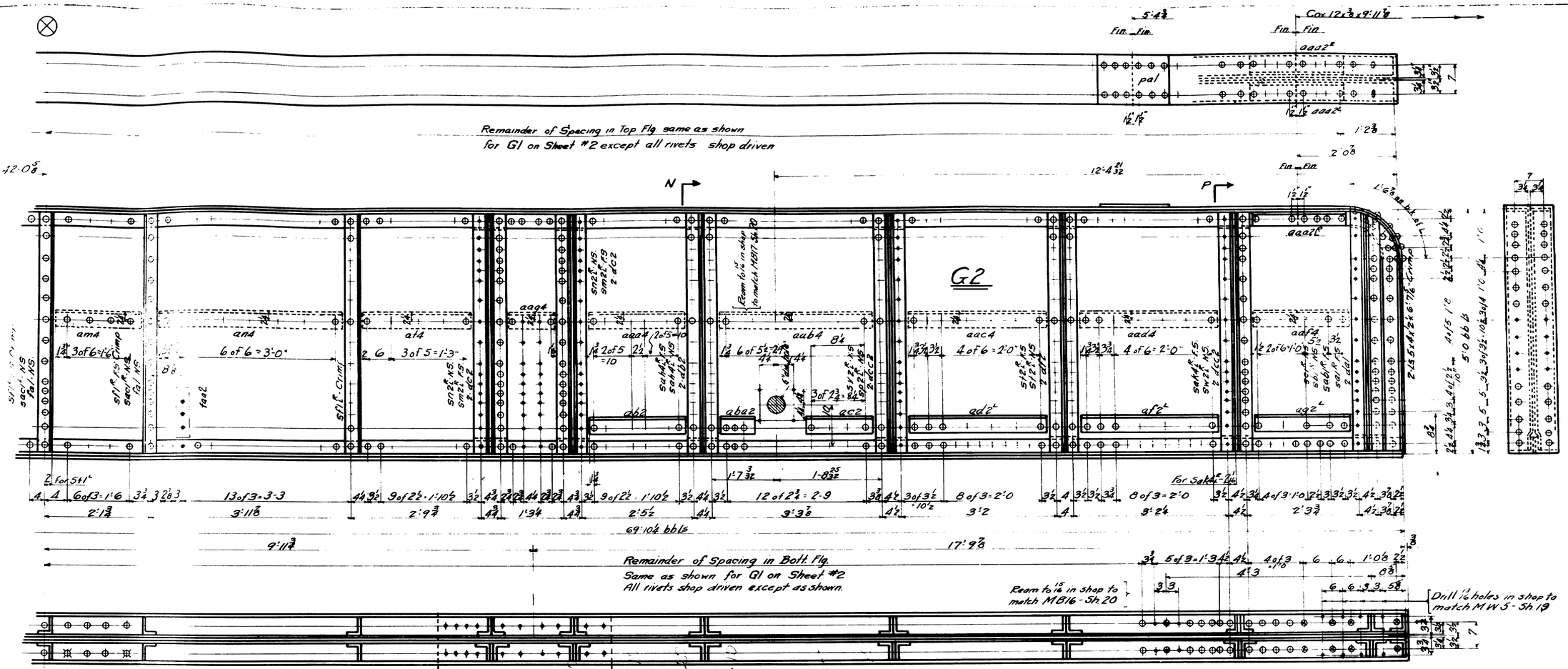
Rev. 6-24-30
Rev. 6-27-30
Rev. 7-1-30

10-7




## ONE SIDEWALK GIRDER-G2 : 1935.

| | | |

AMERICAN BRIDGE COMPANY

## 2 - FLOOR BEAMS - ONE F1 & ONE F2

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 2 | 27"CB 101# | 21 | 9½ | | | 21-9½ | 3 |

## 2 - FLOOR BEAMS F3

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 2 | ZI CB 80# | 21 | 9½ | | | 21-7½ | 4 |

## ONE FLOORBEAM F4 = 30-76

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 2 | Pls | 12 | ¾ | 1 | 4 | ph | S |
| 1 | 30 CB 138# | 21 | 9½ | | | 21-9½ | 2 |
| 3 2 | LS 4 | 3½ | ½ | 20 | 9½ | ap | 21-0 27 |

## ONE FLOOR BEAMS F5

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | 30 CB 126# | 21 | 9½ | | | | S |
| 1 | | | | | | ap | S |

## ONE CROSS GIRDER - CG1

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 2 | 30 CB 220# | 21 | 9½ | | | | 21-9½ | 1 |
| 8 | Pls | 8½ | ⅜ | 2 | 10¼ | pa | 22-11 | 32 |
| 4 | Pls | 18 | 5/16 | 2 | 1 | pb | | S |
| 14 | L³ | 3½ | 3½ | ⅜ | 1 | 6 | ab | S |
| 16 | L³ | 3½ | 3½ | ⅜ | 2 | 0 | aac aad | S |
| 16 | Fills | 3½ | | ⅜ | 1 | 6 | fa | S |
| 4 | L³ | 6 | 4 | ⅜ | 1 | 6 | ad | S |
| 8 | L³ | 5 | 3½ | 5/16 | 0 | 9½ | aae aaf | S |
| 4 | L³ | 8 | 6 | ½ | 2 | 2½ | akf akf | Fin Iand S |
| 1 | Pl | 18½ | | ⅝ | 2 | 2½ | pc | Fin Iand S |
| 1 | L | 8 | 6 | ½ | 1 | 6 | ak | S |
| 1 | L | 8 | 6 | ½ | 1 | 6 | akk | S |
| 2 | L³ | 3½ | 2½ | ⅜ | 0 | 6 | af | S |
| 2 | Fills | 6½ | | ½ | 0 | 9 | do | S |
| 1 | Fill | 5 | 1/16 | | 1 | 5½ | fb | S |
| 1 | Pl | 30 | | 1 | 3 | 3 | pd | S |
| 1 | L | 4 | 3½ | ⅜ | 1 | 6 | um | S |
| 1 | L | 3½ | 3½ | ⅜ | 1 | 6 | un | S |
| 1 | Fill | 5 | 1/16 | | 1 | 3 | fc | S |
| 1 | Pl | 16 | ⅝ | | 1 | 7 | pf | S |
| 1 | Pl | 16 | ⅝ | | 1 | 7 | pg | S |
| 2 | Fills | 7½ | | ½ | 1 | 5½ | db | S |
| 1 | Fill | 5 | ¾ | | 1 | 3 | fd | S |
| 2 | L³ | 4 | 3½ | ½ | 2 | 6½ | aaa | 21-0 32 |
| 2 | L³ | 4 | 3½ | ½ | 4 | 2¾ | aab | 32 |
| 1 | L | 4 | 3½ | ½ | 2 | 2¾ | aac | 32 |
| 1 | L | 4 | 3½ | ½ | 3 | 8½ | aad | 32 |

NOTES:
MATERIAL: O. H. Steel
SPECIFICATIONS: Maine State Hwy. Dept.
INSPECTION: P.T.L
ERECTION: Others

RIVETS: ¾ dia
OPEN HOLES: 13/16 dia. U.N.

Rev 7/7/30
Rev 6-27-30
Rev. 6-20-30

**J. A. Greenleaf & Sons Co.**
Maine Highway Comm. Bridge Div.
**GUT BRIDGE**
Between
Rutherford Isl. & Mainland So. Bristol
One Bob - Tail Thru Plate Girder Draw Span.
69'-11" c. to c. Girders.

**AMERICAN BRIDGE CO.**
**AMBRIDGE PLANT**
Dwgs. made at Ambridge No. 5 in charge of Reahl
Detailed by KKH Date 5/6/30 Checked by GK,F Date 1-12-30
Fld. conn. chk. by F. C. S Date 7/3/30
ORDER NO G3377 S SHEET NO. 5

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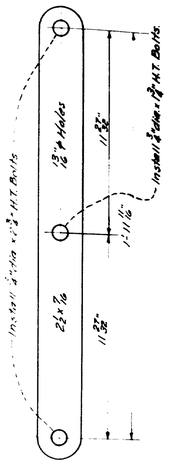
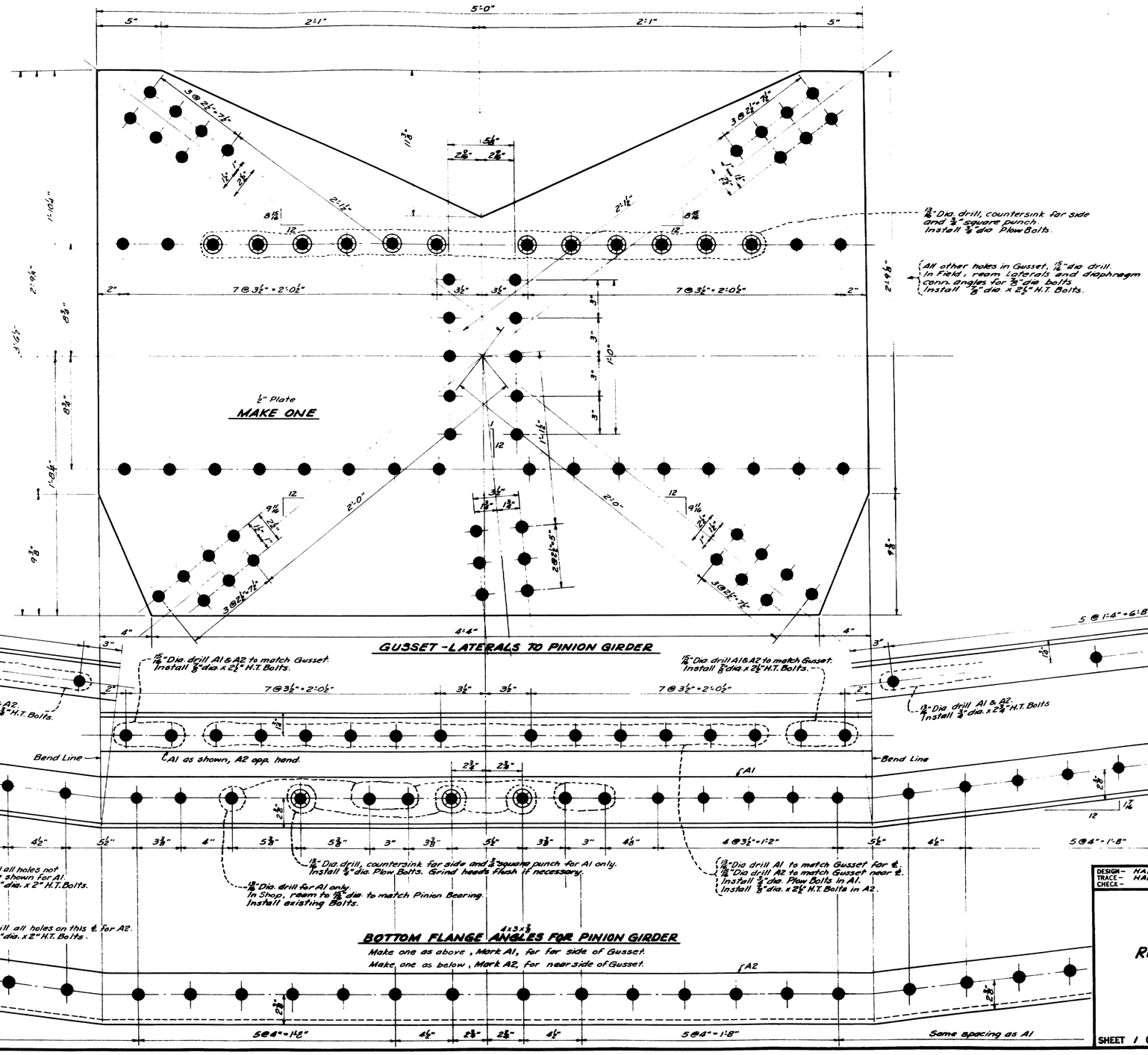
10-9

| B. P. R. REG. NO. | STATE | PROJECT NUMBER | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | | | |




LATTICE
20 REQD.

WASHER
2½" x 2⅜" x 13/16" - 15/16" hole
4 REQD.




0 1 2 3 4 5 INCHES

| | |
|---|---|
| DESIGN – HARRIS | BRIDGE NO. 2339 |
| TRACE – HARRIS | SURVEY – |
| CHECK – | PLOT – |

STATE HIGHWAY COMMISS ON
BRIDGE DIVISION

# GUT BRIDGE
BETWEEN
RUTHERFORD ISLAND
AND
MAINLAND
SOUTH BRISTOL
LINCOLN COUNTY

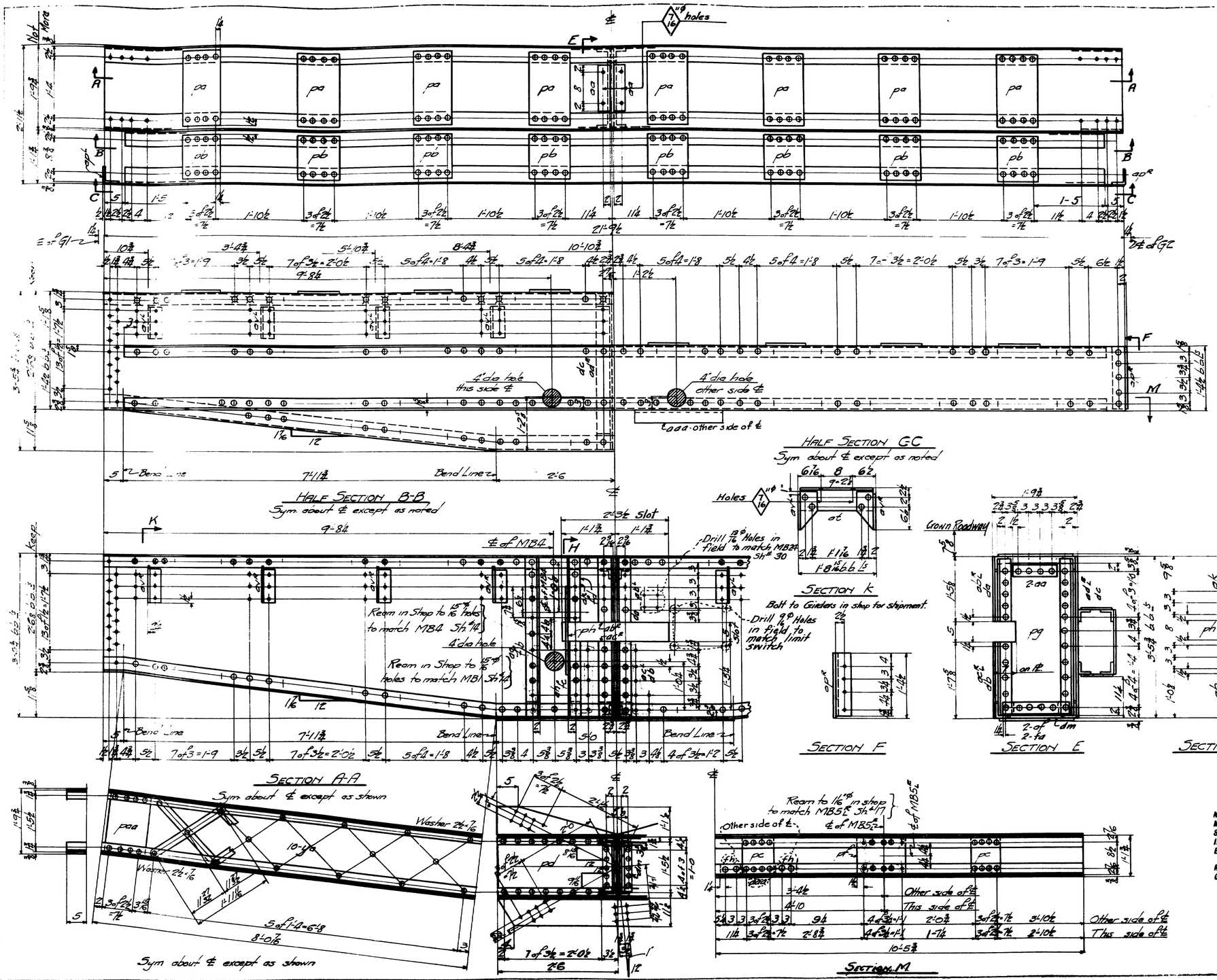
PINION GIRDER REPAIRS

SHEET 1 OF 1 AUGUSTA, MAINE DEC. 1958

AMERICAN BRIDGE COMPANY

# ONE-PINION GIRDER-G3 = 0.64L

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 2 | PL | 4½ | 3 | 21 | 9½ | | | 21-10½ | 38 |
| 1 | PL | 16 | 3 | 21 | 9½ | | | 21-10½ | 41 |
| 2 | Ls 4 | 3 | 3 | 21 | 9½ | | | 21-10½ | 29 |
| 2 | Ls 4 | 3 | 3 | 21 | 10½ | | Bent | 22-5 | 28 |
| 4 | Ls 4 | 3 | 3 | 20 | 11½ | | | 21-04 | 30 |
| 8 | PL | 10 | 3 | 1 | 7 | pa | | | S |
| 8 | PL | 10 | 3 | 0 | 11½ | pb | | | S |
| 4 | PL | 10 | 3 | 0 | 11½ | pc | | | S |
| 1 | PL | 41½ | 3 | 5 | 0 | pd | | | S |
| 2 | PL | 12 | 3 | 1 | 4 | pf | | | S |
| 2 | Ls 3½ | 3½ | 3 | 1 | 0 | aa | | | S |
| 2 | Ls 4 | 3½ | 3 | 1 | 4¾ | abf | | | S |
| 2 | Ls 4 | 3½ | 3 | 1 | 7½ | acf | | | S |
| 2 | Ls 4 | 3½ | 3 | 3 | 5 | adf | | | S |
| 2 | Fills | 3½ | 3 | 1 | 1 | fa | | | S |
| 1 | Fill | 8½ | 3 | 1 | 1½ | da | | | S |
| 1 | Fill | 8½ | 3 | 1 | 3 | db | | | S |
| 1 | Fill | 8½ | 3 | 2 | 10½ | dc | | | S |
| 2 | Ls 3½ | 3½ | 3 | 1 | 6¾ | af | | | S |
| 1 | L 3½ | 3½ | 3 | 3 | 5 | ag | | | S |
| 1 | L 5 | 3½ | 3 | 1 | 7¼ | ah | | | S |
| 1 | L 5 | 3½ | 3 | 1 | 4¾ | ak | | | S |
| 1 | Fill | 3½ | 3 | 2 | 11¼ | fb | | | S |
| 1 | Fill | 3½ | 3 | 1 | 3 | fc | | | S |
| 1 | Fill | 3½ | 3 | 1 | 1½ | fd | | | S |
| 2 | Ls 4 | 4 | 1 | 6 | 1 | 4¼ | apg | | |
| 1 | PL | 20 | 3 | 3 | 3½ | pg | | | |
| 20 | bars | 2½ | 1 | 6 | 1 | Hucky a | | | |
| 4 | Washers | 2½ x 1 | 6 | - | 1¾ | "ϕ holes | | | |
| 1 | PL | 3 | 3 | 1 | 11 | ph | | | |
| 8 | Ls 6 | 4 | 3 | 1 | 7½ | af | | | |
| 16 | Ls 5 | 3½ | 3 | 0 | 9½ | abf acf | | | |
| 2 | PL | 10 | 3 | 1 | 8½ | paa | | | |
| 1 | L 4 | 3 | 3 | 1 | 10 | aaa | | | |
| 2 | Fills | 4 | 3 | 0 | 5½ | fh | | | |
| 1 | Fill | 8 | 3 | 1 | 2½ | dm | | | |




## HALF SECTION B-B
Sym. about ℄ except as noted

## HALF SECTION GC
Sym about ℄ except as noted

## SECTION A-A
Sym about ℄ except as shown

## SECTION K
Bolt to Girders in shop for Shipment.

## SECTION F

## SECTION E

## SECTION H

## SECTION M

NOTES:
MATERIAL: O. H. Steel
SPECIFICATIONS: Maine State Hwy. Dept.
INSPECTION: P.T.L.
ERECTION: Others.
RIVETS: ¾" dia.
OPEN HOLES: 13/16" dia. Unless Noted

**J. A. Greenleaf & Sons Co.**
Maine Highway Comm. Bridge Div.
**GUT BRIDGE**
Between
Rutherford Isl. & Mainland So. Bristol
One Bob-Tail Thru Plate Girder Draw Span.
69'-11" c. to c. Girders.

**AMERICAN BRIDGE CO.**
AMBRIDGE PLANT
Dwgs. made at Ambridge No. 5 in charge of Reehl
Detailed by G.A.E. Date 6/9/30 Checked by "F." Date 6-14-30
Fld. comm. chk. by W.K.M. Date 7/8/30
ORDER NO G3377-5 SHEET NO. 6

Rev 6-27-30

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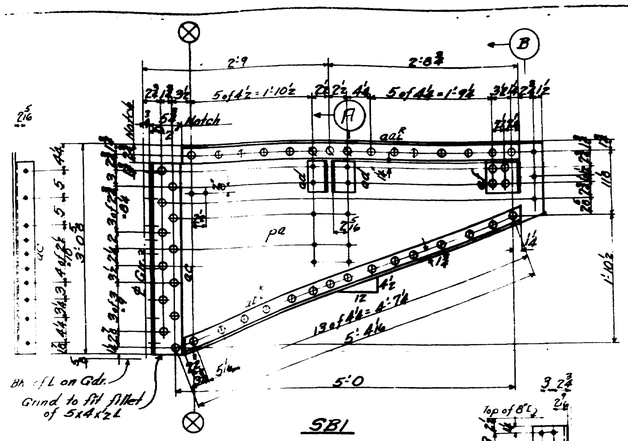
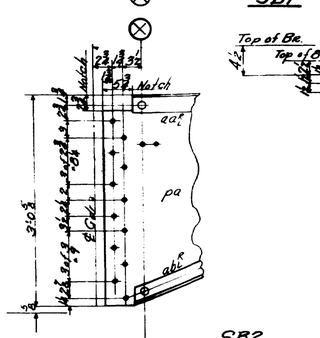
0 1 2 3 4 5 INCHES

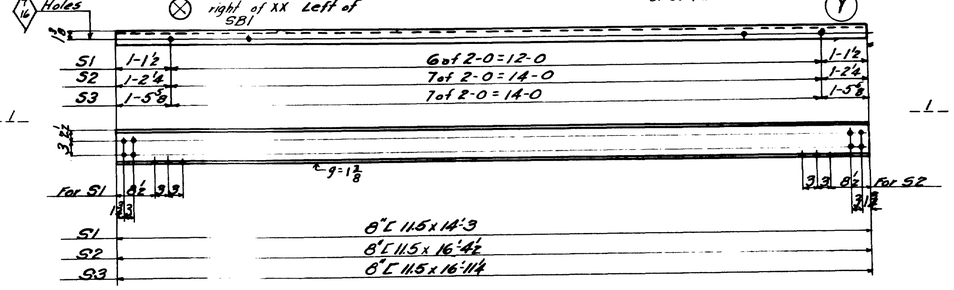


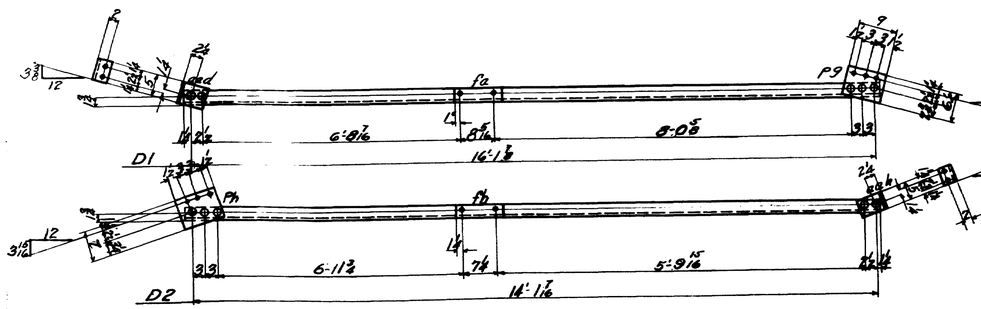

SB1

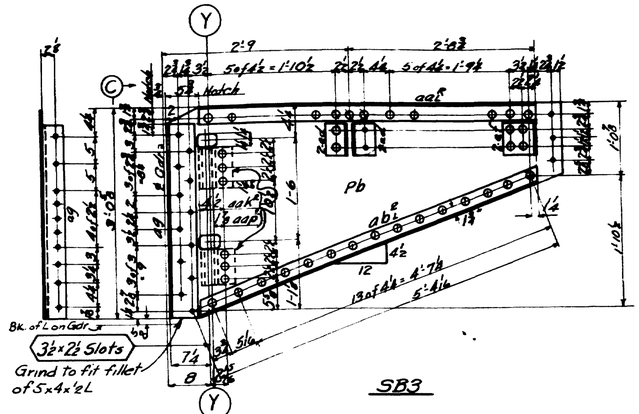



SB2

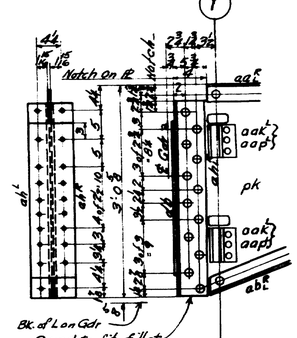
Parts not shown to right of XX Left of SB1



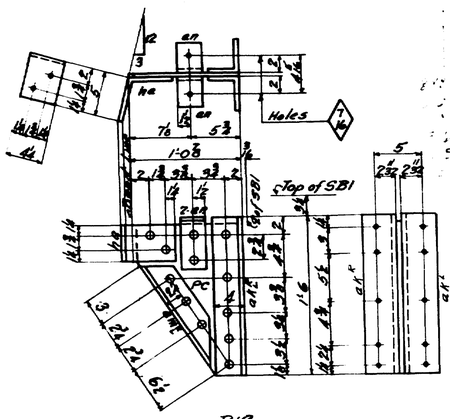




SB3

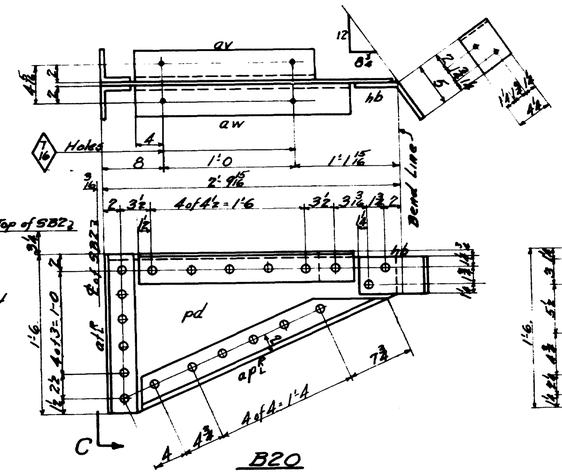



SB4

Parts not shown to right of YY same as SB3




B19

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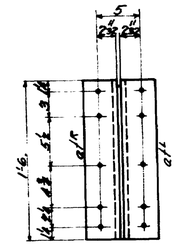


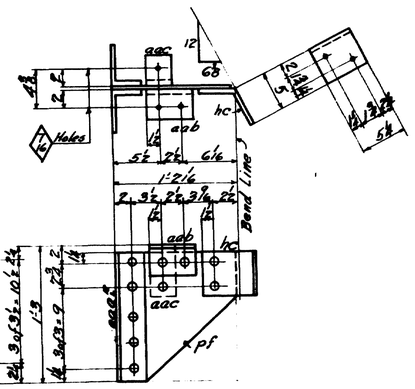


B21

## 2-SIDEWALK BRACKETS-ONE-SB1 & ONE-SB2

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 2 | L | 6 | 9 | 3 | 0 | 4½ | aa | | | |
| 4 | L | 5 | 3½ | 3 | 0 | 4½ | ab | for SB1 | S | |
| 4 | L | 5 | 3½ | 3 | 0 | 5 | ac | for SB2 | S | |
| 1 | L | 5 | 3½ | 2 | 9 | 8 | ac | for SB1 | S | |
| 4 | L | 5 | 6 | 4 | 0 | 0 | 6½ | ad | S | |
| 2 | L | 5 | 8 | 6 | 2 | 0 | 5½ | af | S | |

## 3-SIDEWALK BRACKETS-ONE-SB4, 2-SB3 & 1-SB1

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | L | 6 | 9 | 3 | 3 | 4 | pk | for SB1 (SB4) | S | |
| 6 | Ls | | | | | | 3 aak | | | |
| 6 | Ls | | | | | | 3 aap | | | |
| 6 | Ls | | | | | | 3 aaq | | | |
| 2 | L | 5 | 3½ | 2 | 2 | 9⅝ | aq | for SB3 | S | |
| 2 | L | 5 | 3½ | 2 | 2 | 9⅝ | aak | for SB4 | S | |
| 6 | Ls | | | | | | af | | | |
| 6 | Fins | | | | | | MP5 | 2-for SB4, 4-for SB3 | | |
| 1 | Fill | | 7⅛ | 2 | 2 | 2½ | db | for SB4 | S | |
| 6 | Ls | 8 | 6 | 2 | 0 | 7½ | aak | 44 on SB1, 24 on SB4 | S | |
| 6 | Ls | 7½ | 3⅜ | 2 | 0 | 7½ | aap | 24 on SB1, 24 on SB4, 24 on SB3 | S | |

## ONE-BRACKET-B19

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1 | PL | 17½ | ⅞ | 1 | 0 | | pc | | S |
| 2 | Ls | 4 | 3½ | 2 | 1 | 6 | ak | | S |
| 2 | Ls | 6 | 3½ | ⅜ | 0 | 9 | an | | S |
| 1 | PL | 44 | ⅜ | 0 | 10 | | ha | Bent | S |
| 2 | Ls | 3½ | 3½ | 7/16 | 1 | 2½ | am | | S |

## ONE-BRACKET-B20

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1 | PL | 17½ | 7/16 | 2 | 9 | | pd | | S |
| 2 | Ls | 3½ | 3½ | 2 | 1 | 6 | af | | S |
| 2 | Ls | 3½ | 3½ | 7/16 | 2 | 7 | ap | | S |
| 1 | PL | 44 | ⅜ | 0 | 10 | | hb | Bent | S |
| 1 | L | 3½ | 3½ | 7/16 | 2 | 0½ | aw | | S |
| 1 | L | 3½ | 3½ | 7/16 | 1 | 9 | av | | S |

## ONE-BRACKET-B21

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1 | PL | 13 | ⅜ | 1 | 2½ | | pf | | S |
| 2 | Ls | 5 | 3½ | ⅜ | 1 | 2½ | aa | | S |
| 1 | L | 3½ | 3½ | 7/16 | 0 | 5½ | ab | | S |
| 1 | L | 6 | 3½ | ⅜ | 0 | 3 | ac | | S |
| 1 | PL | 54 | ⅜ | 0 | 9 | | hc | Bent | S |

## 2-SIDEWALK STRINGERS-S3

2 8"C 11.5 16'-11¼

## ONE-SIDEWALK STRINGER-S1

1 8"C 11.5 14'-3

## ONE-SIDEWALK STRINGER-S2

1 8"C 11.5 16'-4½

## ONE SIDEWALK BRACE-D1

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1 | L | 3 | 2½ | ⅜ | 16 | 4½ | | | S |
| 1 | Fill | 3 | ⅜ | 0 | 10⅜ | | fa | | S |
| 1 | L | 6 | 3½ | ⅜ | 0 | 5 | aad | | S |
| 1 | PL | 6 | 2⅝ | ⅜ | 0 | 9 | pg | | S |

## ONE-SIDEWALK BRACE-D2

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1 | L | 3 | 2½ | ⅜ | 14 | 4 | | | S |
| 1 | Fill | 3 | ⅜ | 0 | 9⅜ | | fb | | S |
| 1 | L | 6 | 3½ | ⅜ | 0 | 5 | aah | | S |
| 1 | PL | 7 | ⅜ | 0 | 9 | | ph | | S |

NOTES:
MATERIAL: O. H. Steel.
SPECIFICATIONS: Maine State Hwy. Dept.
INSPECTION: P.T.L.
ERECTION: Others.

RIVETS: ⅞ dia.
OPEN HOLES: 15/16 dia. Unless Noted

**J. A. Greenleaf & Sons Co.**
Maine Highway Comm. Bridge Div.
**GUT BRIDGE**
Between
Rutherford Isl. & Mainland So. Bristol
One Bob-Tail Thru Plate Girder Draw Span.
69'-11" c. to c. Girders.

**AMERICAN BRIDGE CO.**
AMBRIDGE PLANT
Dwgs. made at Ambridge No. 5 in charge of Roehl
Detailed by A.F. Date 6-4-30 Checked by O.K.G. Date 6-11-30
Fld. conn. chk. by W.K.M.T. Date 7/3/30
ORDER NO G3377-5 SHEET NO. 7

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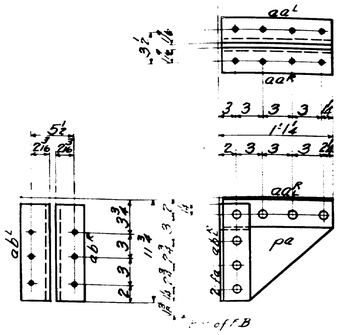
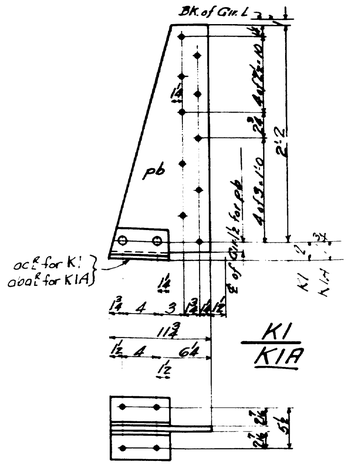
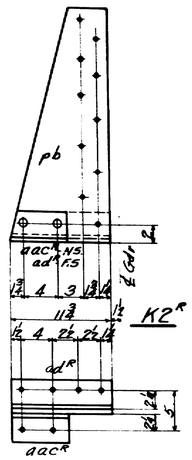
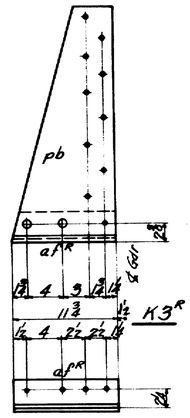
Rev 6-27-30
Rev 6-26-30

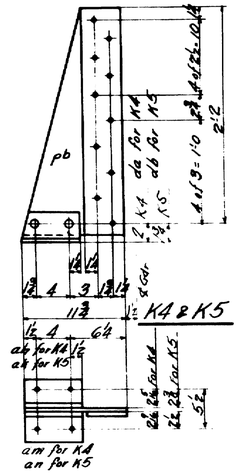
0 1 2 3 4 5 INCHES

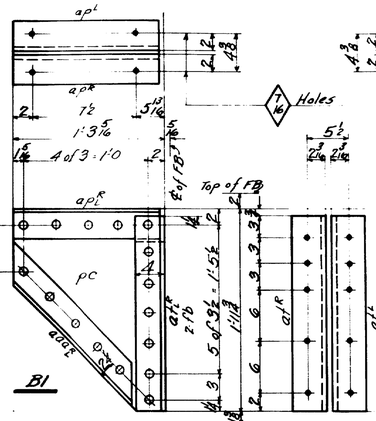


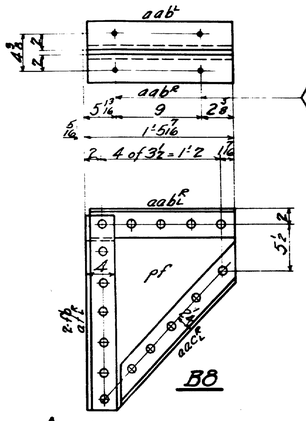



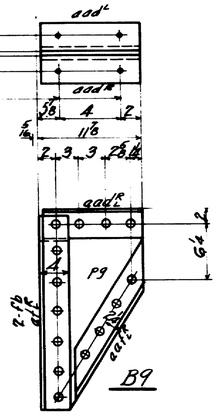



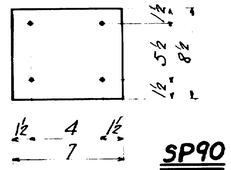



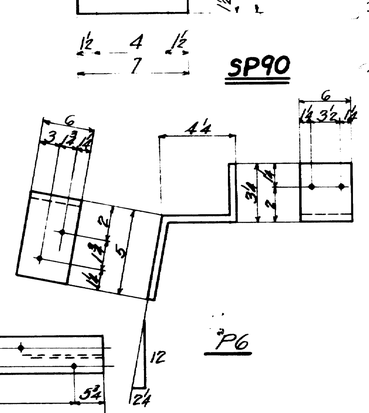



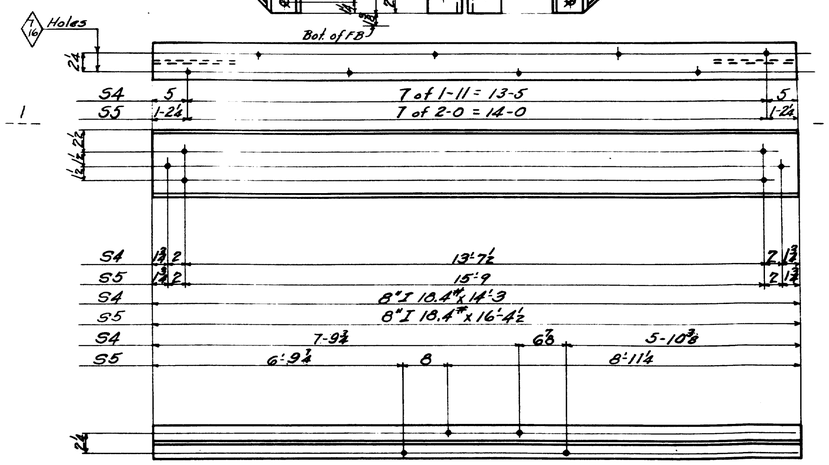



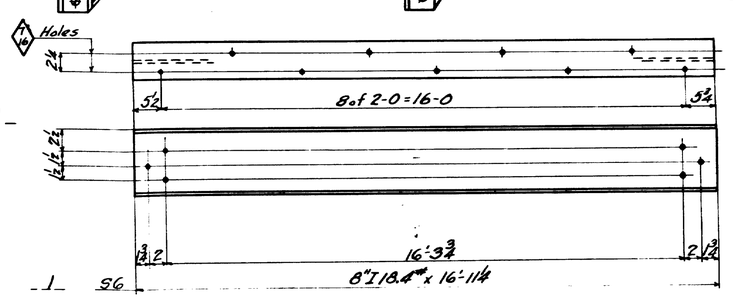




## 2-STRINGER BRACKETS-B26 = 51

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 7 | 4 | Ls | 3½ | 3 | ⅜ | 1 | 1 | 2 aaR 2 aaL | S |
| 14 | 2 | Pls | 11 | 3 | ⅜ | 1 | 1 | pa | S |
| | 4 | Ls | 3½ | 3½ | ⅜ | 0 | 11 | 2 apR 2 apL | S |
| 4 | 4 | Fills | 3½ | 3 | ⅜ | 0 | 8 | fa | S |

## 6-KNEE BRACES-4-K1 & 2 K1A = 51

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 25 | 20 | 6 | Pls | 11¾ | 3/8 | 2 | 3½ | pb | Cuts 2 | 17'-5½ 23'-0 40 |
| | | 8 | Ls | 4 | 3½ | ⅜ | 0 | 7 | 4 aaR 4 aaL | S |
| | | 8 | Ls | 4 | 3½ | ⅜ | 0 | 7 | 4 aaR 4 aaL | S |
| | | 4 | Ls | 3½ | 3½ | ⅜ | 0 | 11¾ | 2 aaR 2 aaL | S |

## 4-KNEE BRACES-2-K2R - 2-K2L = 12

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 4 | Pls | | | | | | pb | S |
| | 4 | Ls | 4 | 3½ | ⅜ | 0 | 7 | 2 aaR 2 aaL | S |
| | 4 | Ls | 4 | 3½ | ⅜ | 0 | 11¾ | 2 aaR 2 aaL | S |

## 4-KNEE BRACES-2-K3R - 2-K3L = 12

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 4 | Pls | | | | | | pb | S |
| | 4 | Ls | 3½ | 3½ | ⅜ | 0 | 11¾ | 2 afR 2 afL | S |

8 Pls 7 4 0 8½ SP90

## 4-KNEE BRACES-K4 = 61

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 4 | Pls | | | | | | pb | |
| | 4 | Ls | 3½ | 3½ | ⅜ | 0 | 7 | ah | S |
| | 4 | Ls | 4 | 3½ | ⅜ | 0 | 7 | am | S |
| | 4 | Fills | 4½ | 4 | 2 | 3½ | | da | S |

## 2-KNEE BRACES-K5

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 2 | Pls | | | | | | pb | |
| | 2 | Ls | 3½ | 3½ | ⅜ | 0 | 7 | ak | S |
| | 2 | Ls | 4 | 3½ | ⅜ | 0 | 7 | an | S |
| 1 | 2 | Fills | 4½ | 8 | 2 | 3½ | | db | S |

## ONE BRACKET-B1

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 1 | Pl | 23½ | ⅜ | 1 | 3 | | pc | S |
| | 2 | Ls | 4 | 3½ | ⅜ | 1 | 11 | afR | S |
| | 2 | Ls | 3½ | 3½ | ⅜ | 1 | 3 | apR | S |
| | 2 | Ls | 3½ | 3½ | ⅜ | 1 | 9½ | aaaL | S |
| | 2 | Fills | 4 | ⅜ | 1 | 7½ | | fb | S |

## ONE BRACKET-B2

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 1 | Pl | 23½ | ⅜ | 1 | 7⅞ | | pd | S |
| | 2 | Ls | | | | | | afR | |
| | 2 | Ls | 3½ | 3½ | ⅜ | 1 | 7⅞ | avL | S |
| | 2 | Ls | 3½ | 3½ | ⅜ | 2 | 0½ | awL | S |
| | 2 | Fills | | | | | | fb | |

## ONE BRACKET-B8

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 1 | Pl | 23½ | ⅜ | 1 | 5¼ | | pf | S |
| | 2 | Ls | | | | | | afR | |
| | 2 | Ls | 3½ | 3½ | ⅜ | 1 | 5¼ | aabL | S |
| | 2 | Ls | 3½ | 3½ | ⅜ | 1 | 10¼ | aacL | S |
| | 2 | Fills | | | | | | fb | |
| | 1 | Pl | 6 | ⅜ | 1 | 0¼ | P6 | Bent | |

## ONE BRACKET-B9

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 1 | Pl | 23½ | ⅜ | 0 | 11½ | | pg | S |
| | 2 | Ls | | | | | | afR | |
| | 2 | Ls | 3½ | 3½ | ⅜ | 0 | 11½ | aadR | S |
| | 2 | Ls | 3½ | 3½ | ⅜ | 1 | 8¼ | aafL | S |
| | 2 | Fills | | | | | | fb | |

## ONE SIDEWALK STRINGER-S4

1 8"I 18.4# 14 3 14-3 14

## ONE SIDEWALK STRINGER-S5

1 8"I 18.4# 16 4½ 16-4½ 13

## 2-SIDEWALK STRINGERS-S6

2 8"I 18.4# 16 11¼ 16-11¼ 12

NOTES:
MATERIAL: O. H. Steel.
SPECIFICATIONS: Maine State Hwy. Dept.
INSPECTION: P T L
ERECTION: Others.

RIVETS: ¾ dia.
OPEN HOLES: 7/16 dia. Unless noted.

**J. A. Greenleaf & Sons Co.**
Maine Highway Comm. Bridge Div.
**GUT BRIDGE**
Between
**Rutherford Isl. & Mainland So. Bristol**
One Bob - Tail Thru Plate Girder Draw Span.
69'-11" c. to c. Girders.

**AMERICAN BRIDGE CO.**
**AMBRIDGE PLANT**
Dwgs. made at Ambridge No. 5 in charge of Reehl
Detailed by G.R.E. Date 6-4-30 Checked by O.H.C. Date 6-10-30
Fld. conn. chk. by W.K.M. Date 7/3/30
ORDER NO G3377-5 SHEET NO. 8

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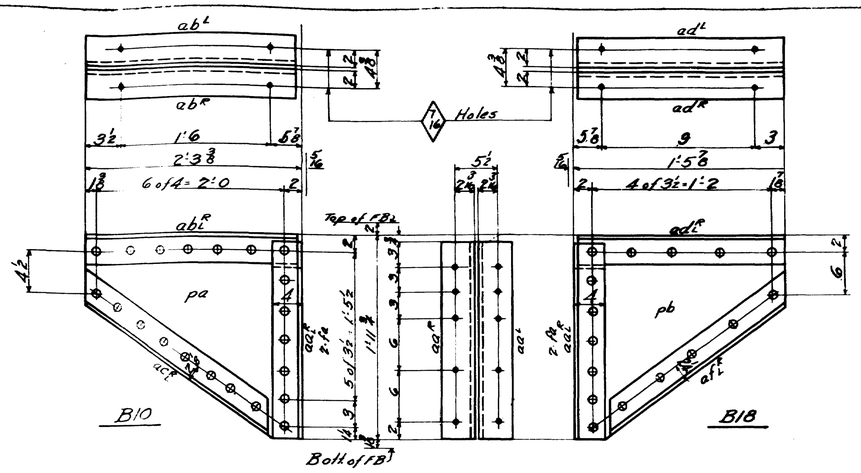


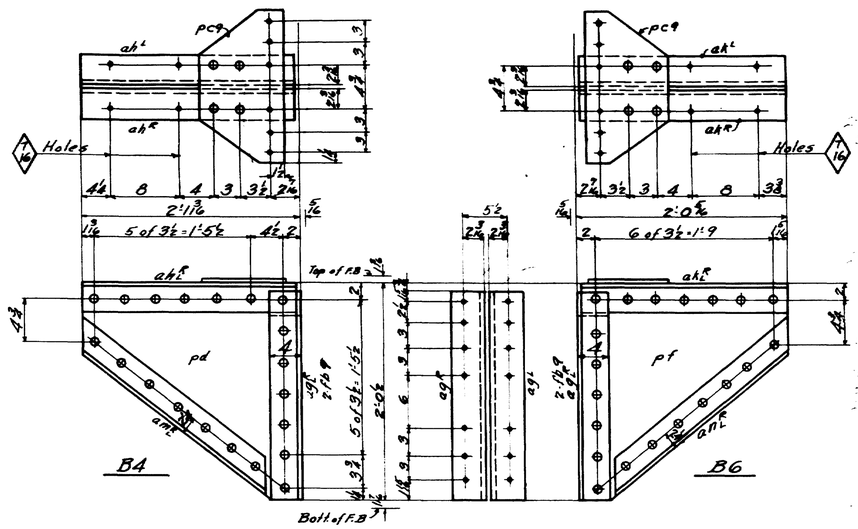


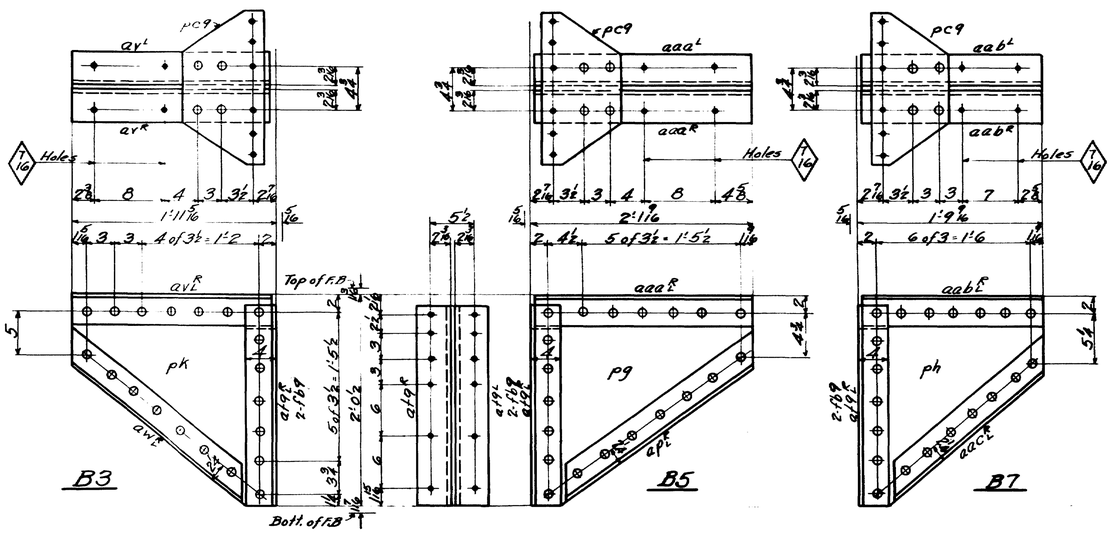


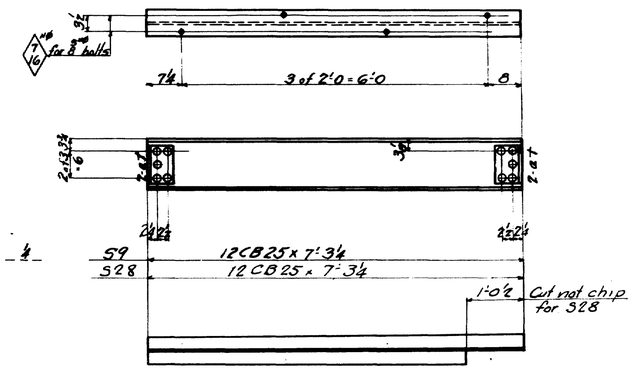


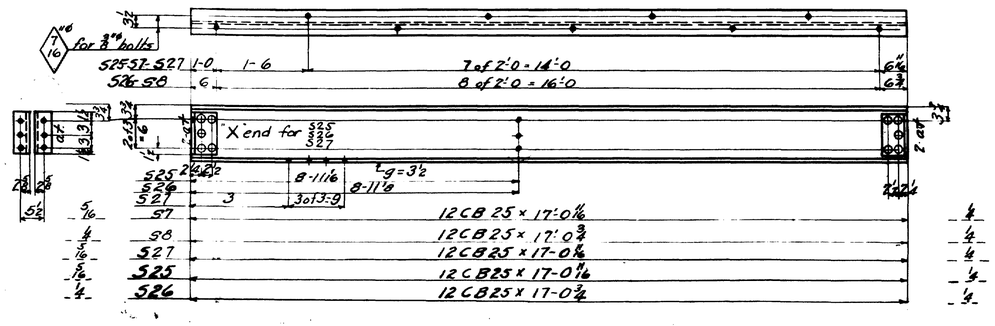


## ONE BRACKET-B10

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 2 | Ls | 4 | 3½ | 3/8 | 1 | 11 | aa1^L | S |
| 2 | Ls | 3½ | 3½ | 3/8 | 2 | 3 | ab1^L | S |
| 2 | Ls | 3½ | 3½ | 3/8 | 2 | 6 | ac^L | S |
| 1 | PL | 23¾ | | 3/8 | 2 | 3 | pa | S |
| 2 | Fills | 4 | | 3/8 | 1 | 7¾ | fa | S |

## ONE BRACKET-B18

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 2 | Ls | | | | | | aa1^L | |
| 2 | Ls | 3½ | 3½ | 3/8 | 1 | 5½ | ad1^L | S |
| 2 | Ls | 3½ | 3½ | 3/8 | 1 | 11¼ | af1^L | S |
| 1 | PL | 23¾ | | 3/8 | 1 | 5½ | pb | S |
| 2 | Fills | | | | | | fa | |

## ONE BRACKET-B4

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 2 | Ls | 4 | 3½ | 3/8 | 1 | 11¾ | ag1^L | S |
| 2 | Ls | 3½ | 3½ | 3/8 | 2 | 1 | ah1^L | S |
| 2 | Ls | 3½ | 3½ | 3/8 | 2 | 5 | am1^L | S |
| 1 | PL | 24¼ | | 3/8 | 2 | 1 | pd | 36-10 39 |
| 2 | Fills | 4 | | 3/8 | 1 | 8½ | fb9 | S |
| 1 | PL | 9½ | | 3/8 | 1 | 7¼ | pc9 | S |

## ONE BRACKET-B6

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 2 | Ls | | | | | | ag1^L | |
| 2 | Ls | 3½ | 3½ | 3/8 | 2 | 0 | ah1^R | S |
| 2 | Ls | 3½ | 3½ | 3/8 | 2 | 4¼ | am1^R | S |
| 1 | PL | 24¼ | | 3/8 | 2 | 0 | pf | 36-10 39 |
| 2 | Fills | | | | | | fb9 | |
| 1 | PL | | | | | | pc9 | |

## ONE BRACKET-B3

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 2 | Ls | 4 | 3½ | 3/8 | 1 | 11¾ | av1^R | S |
| 2 | Ls | 3½ | 3½ | 3/8 | 1 | 11/8 | av1^R | S |
| 2 | Ls | 3½ | 3½ | 3/8 | 2 | 3¼ | aw1^R | S |
| 1 | PL | 24¼ | | 3/8 | 1 | 11/8 | pk | 36-10 39 |
| 2 | Fills | | | | | | fb9 | |
| 1 | PL | | | | | | pc9 | |

## ONE BRACKET-B5

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 2 | Ls | | | | | | ap1^R | |
| 2 | Ls | 3½ | 3½ | 3/8 | 2 | 1⅜ | aaa1^R | S |
| 2 | Ls | 3½ | 3½ | 3/8 | 2 | 5 | ap1^L | S |
| 1 | PL | 24¼ | | 3/8 | 2 | 1⅜ | pg | 36-10 39 |
| 2 | Fills | | | | | | fb9 | |
| 1 | PL | | | | | | pc9 | |

## ONE BRACKET-B7

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 2 | Ls | | | | | | ap1^R | |
| 2 | Ls | 3½ | 3½ | 3/8 | 1 | 9⅜ | aab1^R | S |
| 2 | Ls | 3½ | 3½ | 3/8 | 2 | 2¼ | aac1^R | S |
| 1 | PL | 24¼ | | 3/8 | 1 | 9⅜ | ph | 36-10 39 |
| 2 | Fills | | | | | | fb9 | |
| 1 | PL | | | | | | pc9 | |

## ONE STRINGER-525

## 5-STRINGERS-3-527+2-525

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 6 | 12CB25 | 17 | 0 1/16 | | | | | 16-11¾ 6 |
| 46 | 24 | Ls | 6 | 4 | 1/16 | 0 | 9 | at |

## 9-STRINGERS-8-584+1-526

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 9 | 12CB25 | 17 | 0 3/8 | | | | | 16-11¾ 6 |
| 36 | 15 | | | | | | | at |

## 9-STRINGERS-8-59+1-528

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 9 | 12CB | 25 | 7 | 3¼ | | | | 7-2¼ 8 |
| 36 | 15 | | | | | | | at |

NOTES:
MATERIAL: O. H. Steel.
SPECIFICATIONS: Maine State Hwy. Dept.
INSPECTION: P.T.L.
ERECTION: Others.

RIVETS: ¾ dia
OPEN HOLES, 7/8 dia. Unless Noted

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**GUT BRIDGE**
Between
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Fld. conn. chk. by W.K.M. Date 7/9/30
ORDER NO G3377-S SHEET NO. 9

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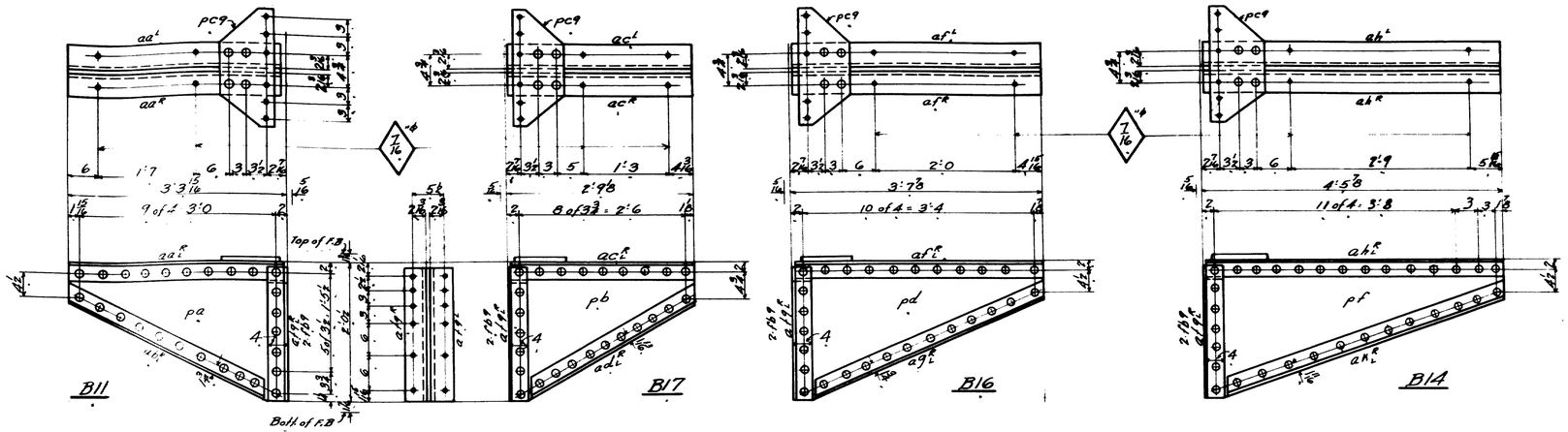
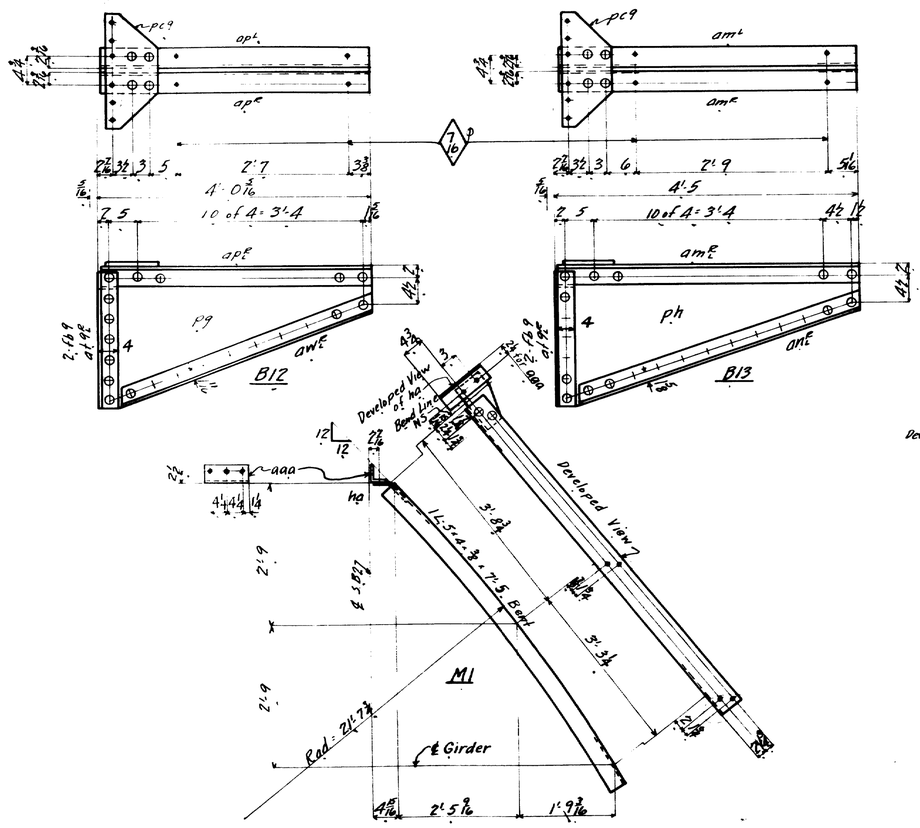
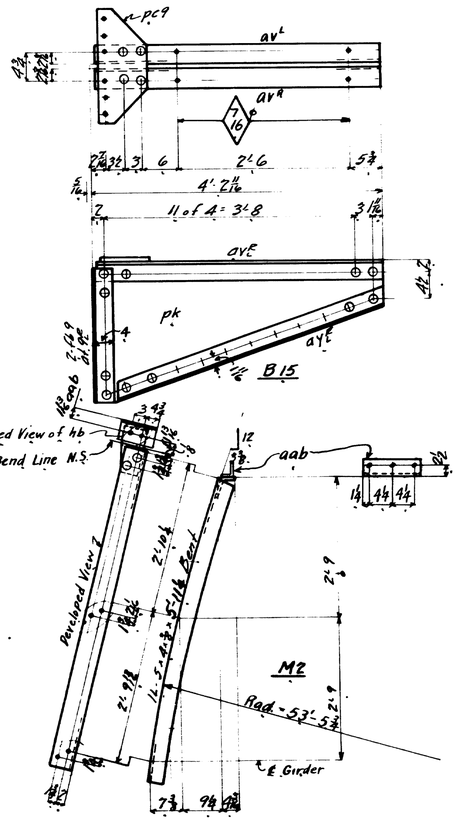
10-15

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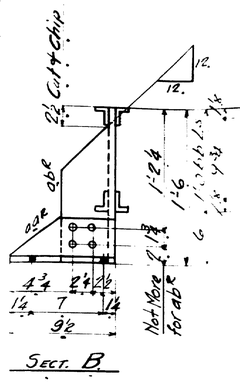
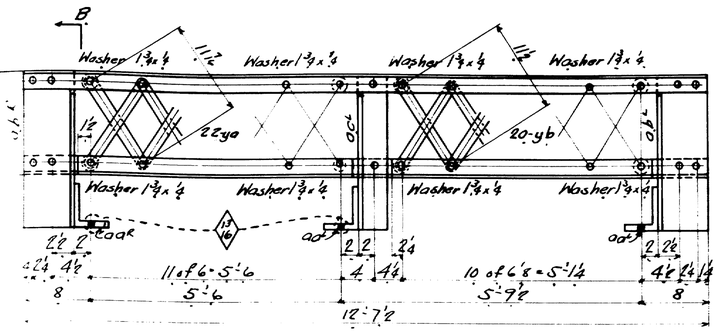
## ONE BRACKET - B11 = 25?

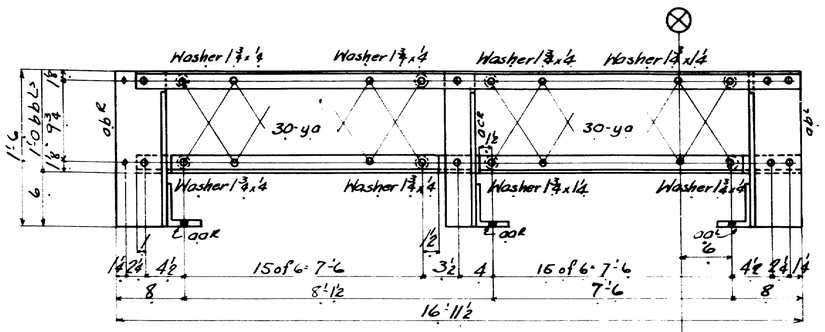
| | | |



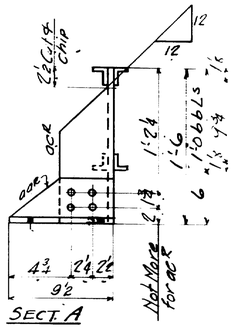

SECT. B



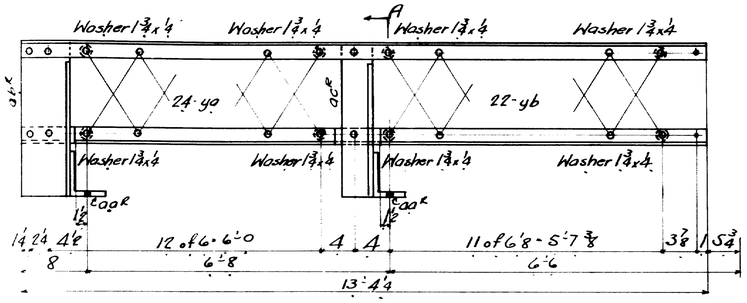

HAND RAIL HR1



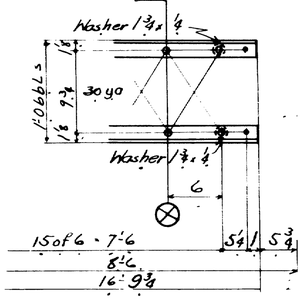

HAND RAIL - HR2



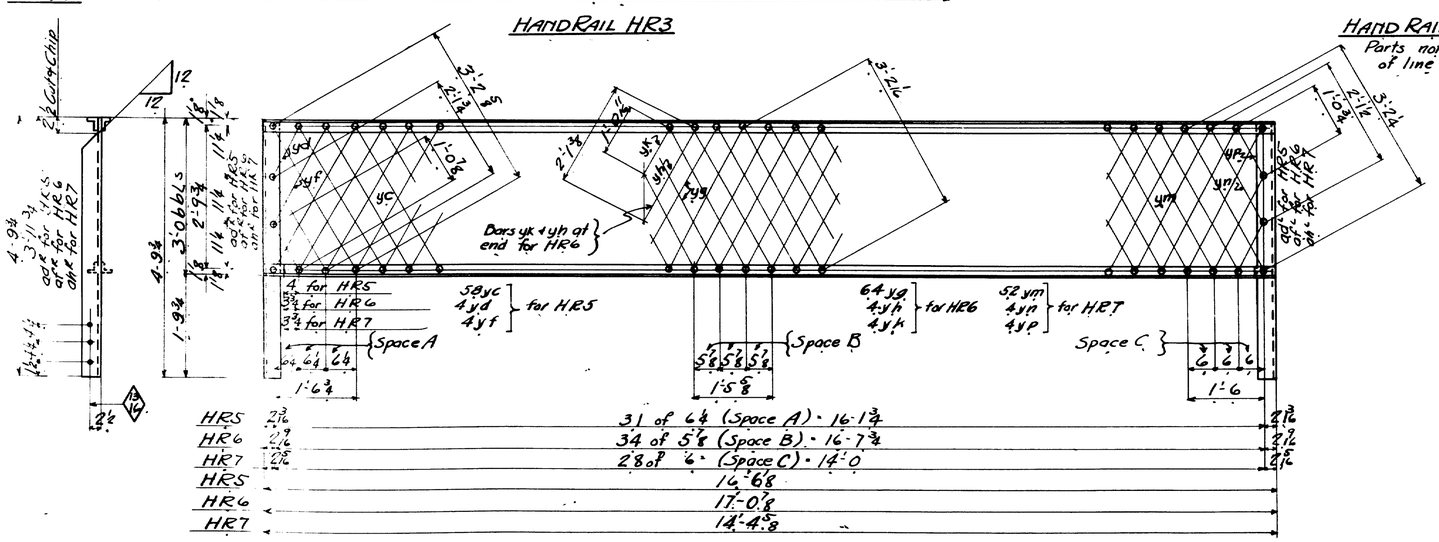

SECT A




HANDRAIL HR3




HAND RAIL - HR4




HANDRAIL HR3

HAND RAIL - HR4

Parts not shown to left of line X-X same as HR2

| | | | | |
|---|---|---|---|---|
| **ONE HAND RAIL HR1** | | | | 27'-2 4 6 |
| 3 Ls 2 1/2 x 1/2 x 12 7/8 | | | | 46 |
| 1 L 2 1/2 x 4 5 9 | | | | 46 |
| 1 L 2 1/2 x 4 5 5 | | | | 46 |
| 3 Ls 5 3⅜ 0 9½ | 2 oa^k | | | S |
| 2 Ls 6 6 7/16 1 6 | 2 ob^k | | | S |
| 1 L 6 3⅜ 1 6 | oc^k | | | S |
| 166 22 Bars 1/4 x 4 | 0 11½ | ya | | 30-1 49 |
| 42 20 Bars 1/4 x 4 | 0 11½ | yb | | 49 |
| 8 Washers 1¾ x ¼ - 1/16 hole | | | | S |
| **ONE HAND RAIL HR2** | | | | 17-4 48 |
| 3 Ls 2 1/2 x 16 9 | | | | 48 |
| 2 Ls 2 1/2 x 7 9½ | | | | |
| 3 Ls | | 1 oa^k | | |
| 2 Ls | | 2 ob^k | | |
| 1 L | | oc^k | | |
| 60 Bars | | ya | | S |
| 8 Washers 1¾ x ¼ - 1/16 hole | | | | |
| **ONE HAND RAIL - HR3** | | | | 26-8 47 |
| 3 Ls 2 1/2 x 13 4 | | | | 47 |
| 1 L 2 1/2 x 6 3½ | | | | 47 |
| 1 L 2 1/2 x 6 1¾ | | | | |
| 2 Ls | | oa^k | | |
| 1 L | | ob^k | | |
| 1 L | | oc^k | | |
| 24 Bars | | ya | | |
| 22 Bars | | yb | | S |
| 8 Washers 1¾ x ¼ - 1/2 hole | | | | |
| **ONE HAND RAIL - HR4** | | | | 17-4 48 |
| 3 Ls 2 1/2 x 16 8¼ | | | | 48 |
| 1 L 2 1/2 x 7 9½ | | | | 48 |
| 1 L 2 1/2 x 8 1¾ | | | | |
| 2 Ls | | oa^k | | |
| 1 L | | ob^k | | |
| 1 L | | oc^k | | |
| 60 Bars | | ya | | |
| 8 Washers 1¾ x ¼ - 1/16 hole | | | | S |
| **ONE HAND RAIL - HR5** | | | | 17-4 48 |
| 3 Ls 2 1/2 x 16 6⅝ | | | | 48 |
| 1 L 2 1/2 x 15 4½ | | | | 48 |
| 2 Ls 4 4 3/8 4 9½ | | odd^k | | S |
| 58 Bars 1/4 x 4 | 3'-2⅝ | c-c yc | | 30-1 49 |
| 4 Bars 1/2 x 4 | 2 1½ | c-c yd | | 49 |
| 4 Bars 1/4 x 4 | 1'-0⅝ | c-c yf | | 49 |
| **2-HAND RAIL - HR6** | | | | 17-4 48 |
| 6 Ls 2 1/2 x 17 0⅞ | | | | 48 |
| 2 Ls 2 1/2 x 16 3⅝ | | | | |
| 4 Ls 4 4 3/8 4 9½ | | 2 of^k | | S |
| 128 Bars 1/4 x 4 | 3 2⅛ | c-c yg | | 30-1 49 |
| 8 Bars 1/4 x 4 | 2 1⅜ | c-c yh | | 49 |
| 8 Bars 1/4 x 4 | 1 0⅞ | c-c yk | | 49 |
| **ONE HAND RAIL HR7** | | | | 17-4 48 |
| 3 Ls 2 1/2 x 14 4⅝ | | | | 48 |
| 1 L 2 1/2 x 13 7⅛ | | | | S |
| 2 Ls 4 4 3/8 4 9½ | | 2 of^k | | |
| 52 Bars 1/4 x 4 | 3 2¼ | c-c ym | | 30-1 49 |
| 4 Bars 1/4 x 4 | 2 1½ | c-c yn | | 49 |
| 4 Bars 1/4 x 4 | 1 0⅜ | c-c yp | | 49 |

NOTES:
MATERIAL: O. H. Steel.
SPECIFICATIONS: Maine State Hwy Dept.
INSPECTION: P.T.L.
ERECTION: Others.
RIVETS: 1/2 dia.
OPEN HOLES: 1/16 dia. Unless Noted

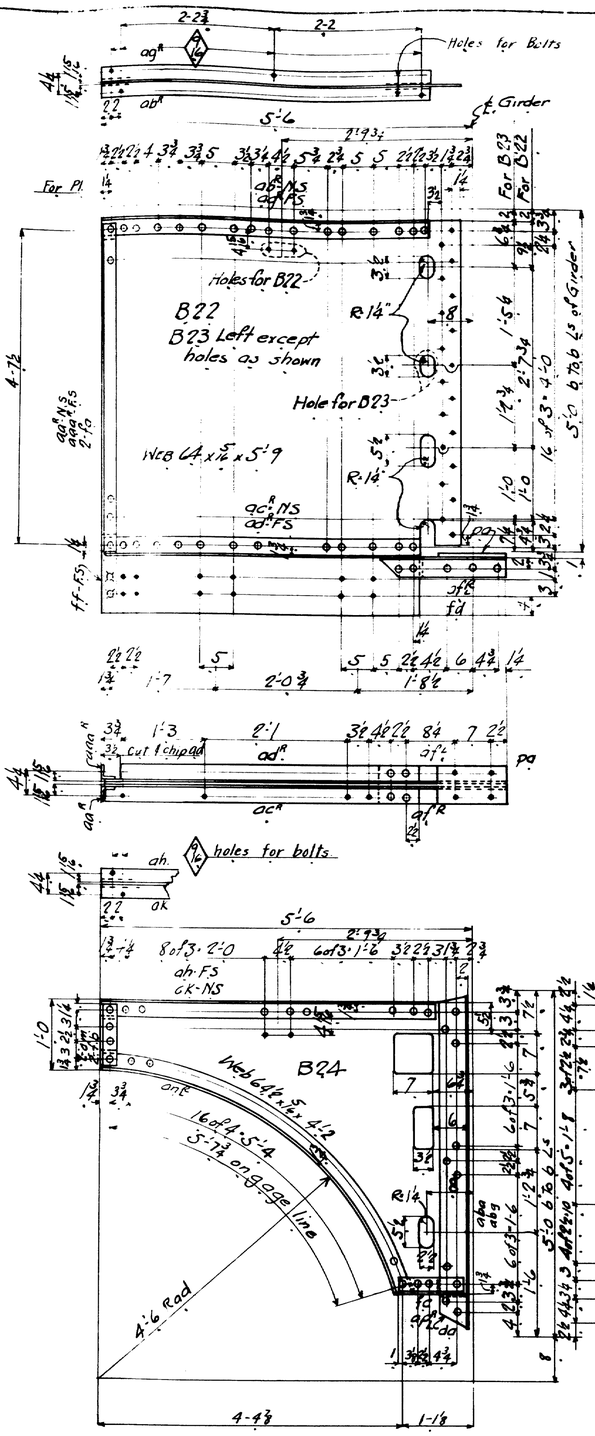
J. A. Greenleaf & Sons Co.
Maine Highway Comm. Bridge Div.
GUT BRIDGE
Between
Rutherford Isl. & Mainland So. Bristol
One Bob-Tail Thru Plate Girder Draw Span.
69'-11" c. to c. Girders.

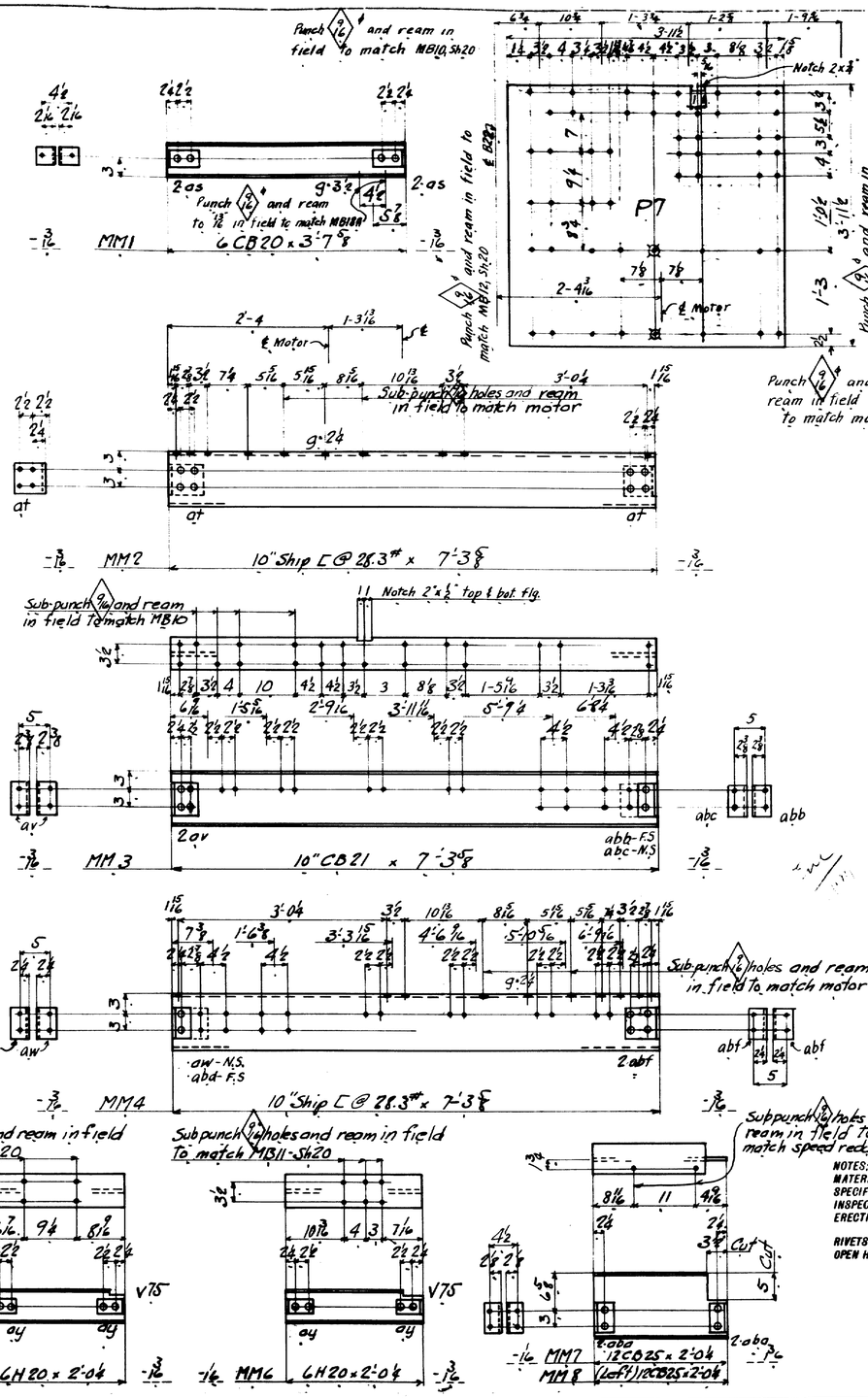
AMERICAN BRIDGE CO.
AMBRIDGE PLANT
Dwgs. made at Ambridge No. 5 in charge
Detailed by GAR Date 6/15 Checked JE 9/25/30
Fld. conn. chk. by WKR 7/3/30
ORDER NO G3377-R Sht. 11
COPYRIGHT AMERICAN BRIDGE COMPANY

Rev 6/27/30

10-12

0 1 2 3 4 5 INCHES




AMERICAN BRIDGE COMPANY

ONE - BRACKET - B22.
ONE " B23

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2 | Rs | 6 | 4 | 5/16 | 5 | 9 | | | S |
| | 2 | Ls | 3 | 3 | 3/8 | 4 | 10 | aq[R] | | S |
| | 4 | Fills | | 3 | 3/8 | 4 | 4 | fa | | S |
| | 2 | Ls | 3 | 3 | 3/8 | 4 | 11/4 | ab[R] | | S |
| | 2 | Ls | 3 | 3 | 3/8 | 4 | 8 1/4 | ac[R] | | S |
| | 2 | Ls | 3 | 3 | 3/8 | 4 | 8 1/4 | ad[R] | | S |
| | 4 | Ls | 3 1/2 | 3 | 5/16 | 1 | 9 1/2 | 2 at R | | S |
| | 2 | Fills | 2 1/16 | 1 | 0 | 2 | a | | | S |
| | 2 | Ls | 3 | 3 | 3/8 | 4 | 11/4 | aq[R] | | S |
| | 2 | Ls | 3 | 3 | 3/8 | 5 | 8 1/2 | a2a2[R] | | S |
| | 2 | Fills | 1 | 3/4 | | 1 | 2 1/2 | fd | | S |
| | 2 | Fills | 1 | 3/4 | | 1 | 9 1/2 | fe | | S |

ONE - BRACKET - B24

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | Rs | 6 | 4 1/2 | 5/16 | 4 | 2 | | 6.5 x 5/16 - 0 | 36 |
| | 1 | L | 3 | 3 | 3/8 | 4 | 11/4 | ah | | S |
| | 1 | L | 3 | 3 | 3/8 | 4 | 11/4 | ak | | S |
| | 2 | Ls | 3 | 3 | 3/8 | 11 | | am | | S |
| | 2 | Fills | 3 | 3/8 | | 5 | 1/2 | fb | | S |
| | 2 | Ls | 3 | 3 | 3/8 | 5 | 11/2 | an[R] | Bent | S |
| | 2 | Ls | 3 | 3 | 3/8 | 1 | 8 1/2 | ap[R] | | S |
| | 2 | Fills | 3 | 3/8 | | 5 | | fc | | S |
| | 1 | Fill | 5 | 5/16 | | 6 | 1/2 | do | | S |
| | 1 | L | 5 | 3 1/2 | 3/8 | 4 | 9 1/2 | aba | | S |
| | 1 | L | 5 | 3 1/2 | 3/8 | 4 | 9 1/2 | abg | | S |

ONE STRUT - MM1

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | H | 6 | @ | 20 | 3 | 7 5/8 | | 3'-7 | S |
| | 4 | Ls | 6 | 3 1/2 | 3/8 | 3 | as | | | S |

ONE PLATE P7

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | Pl | 47 1/2 | 3/8 | 3 | 11'2 | | | | S |

ONE STRUT MM2

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | Ship | 10 | @ | 28.3 | 7 | 3 5/8 | | 7'-3 | 50 |
| | 2 | Ls | 6 | 6 | 7/16 | 5 | 1/2 | at | | S |

ONE STRUT MM3

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 10 | CB | 21 | | 7 | 3 5/8 | | 7'-3 | S |
| | 2 | Ls | 6 | 3 1/2 | 3/8 | 5 | 1/2 | av | | S |
| | 1 | L | 3 1/2 | 3 1/2 | 5/16 | 3 1/2 | | abb, abc | | S |

ONE STRUT MM4

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | Ship | 10 | @ | 28.3 | 7 | 3 5/8 | | 7'-3 | 50 |
| | 1 | Ls | 3 1/2 | 3 1/2 | 3/8 | 5 | 1/2 | aw | | S |
| | 2 | Ls | 6 | 6 | 7/16 | 3 1/2 | | abd, abf | | S |

2 STRUTS MM5 4 8

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2 | H | 6 | @ | 20 | 2 | 04 | | 1'-11 1/2 | S |
| | 4 | Ls | 6 | 6 | 7/16 | 3 | | ay | | S |

2 STRUTS MM6 4 6

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2 | H | 6 | @ | 20 | 2 | 04 | | 1'-11 1/2 | S |
| | 4 | Ls | 6 | 6 | 7/16 | 3 | | ay | | S |

ONE STRUT — MM7
ONE STRUT — MM8

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2 | 12 | CB | 25 | | 2 | 04 | | 1'-11 1/2 | S |
| | 8 | Ls | 3 1/2 | 3 1/2 | 3/8 | 5 | 1/2 | aba | | S |

NOTES:
MATERIAL: O. H. Steel.
SPECIFICATIONS: Maine State Hwy. Dept.
INSPECTION: P.T.L.
ERECTION: Others.

RIVETS; dia. 3/4
OPEN HOLES; dia. 13/16 Unless Noted

**J. A. Greenleaf & Sons Co.**
Maine Highway Comm. Bridge Div.
**GUT BRIDGE**
Between
Rutherford Isl. & Mainland So. Bristol
One Bob-Tail Thru Plate Girder Draw Span.
69'-11" c. to c. Girders.

**AMERICAN BRIDGE CO.**
**AMBRIDGE PLANT**
Dwgs. made at Ambridge No. 5 in charge of Reahl
Detailed by MRL Date 6/16 Checked by LAH Date 6/18/30
Fld. conn. chk. by WKM Date 7/3/30
ORDER NO G3377S SHEET NO. 12

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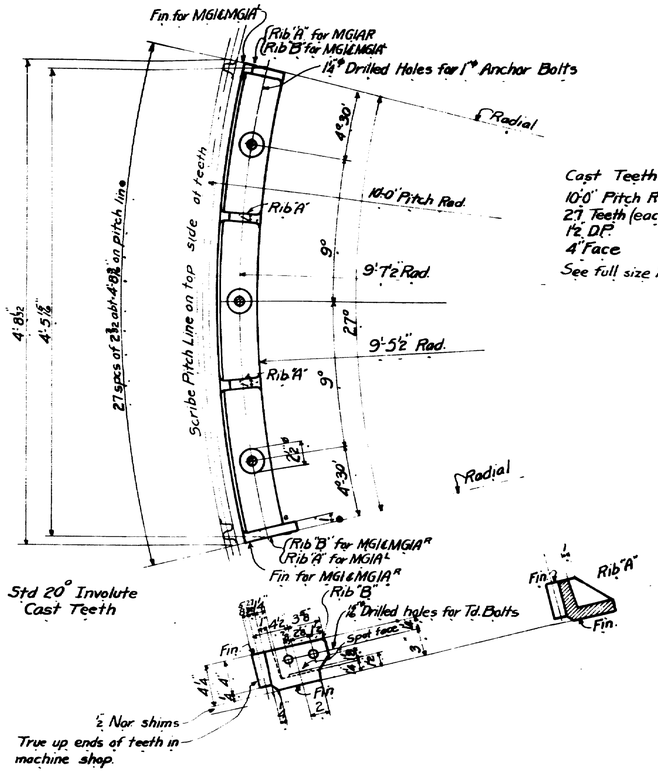
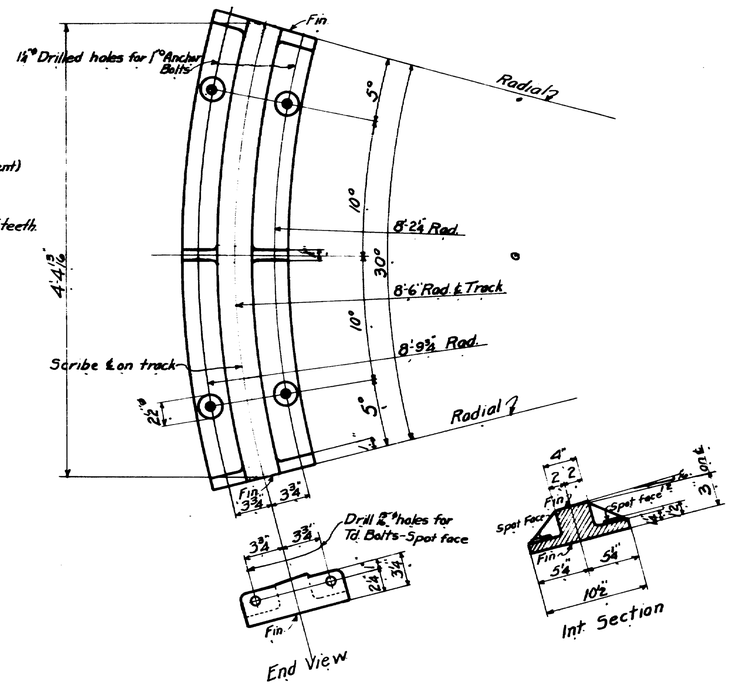
10-16

0 1 2 3 4 5 INCHES

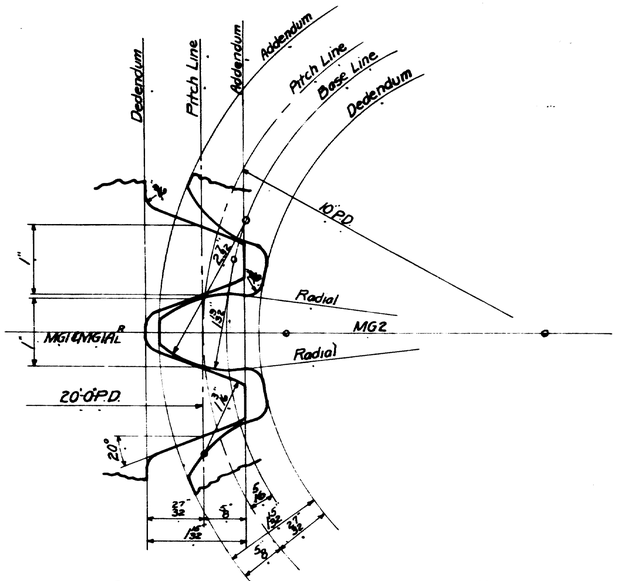



Cast Teeth
10'-0" Pitch Radius
27 Teeth (each segment)
1½ DP
4" Face
See full size layout of teeth.







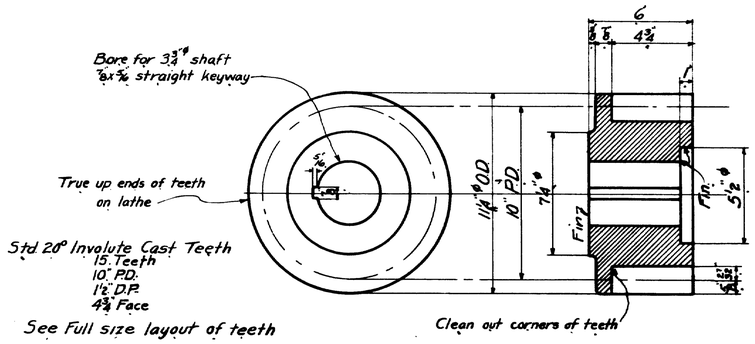


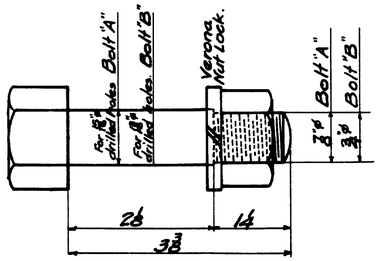

Full size layout of Cast Teeth for Rack & Pinion
Pinion to be rotated around rack in shop to check mesh of teeth.

3 Rack Castings MGI Cast Steel Annealed Wt 250# Patt No AA6021A
One Rack Castings MGIAR Cast Steel Annealed Wt 247# Patt No AA6022AR
One Rack Castings MGIAL Cast Steel Annealed Wt 247# Patt No AA6022AL
} Ordered from Pencoyd Plant Req. No. AB 6008

12 Track Segments MTI Cast Steel Wt 346# Patt No AA6023 Req No.

Ord. from Pencoyd – Req. # AB 6008




8-Turned Bolts "A" – For Racks-MGI-MGIAR & MGIAL
24- Do. Do. "B" – For Tracks-MTI
} 29

One Pinion MG2 Cast Steel Annealed Wt 125# Patt No AA6020A
Ordered from Pencoyd Plant – Req No AB 6008

RACK, TRACK & MAIN PINION.

**J. A. Greenleaf & Sons Co.**
Maine Highway Comm. Bridge Div.
**GUT BRIDGE**
Between
Rutherford Isl. & Mainland So. Bristol
One Bob-Tail Thru Plate Girder Draw Span.
69'-11" c. to c. Girders.

**AMERICAN BRIDGE CO.**
**AMBRIDGE PLANT**
Dwgs. made at Ambridge No. 5 in charge of Reehl
Detailed by WFR Date Checked by LAE Date 5-16-30
Fld. comm. chk. by WKM Date 7/3/30
ORDER NO G3377 M SHEET NO. 13
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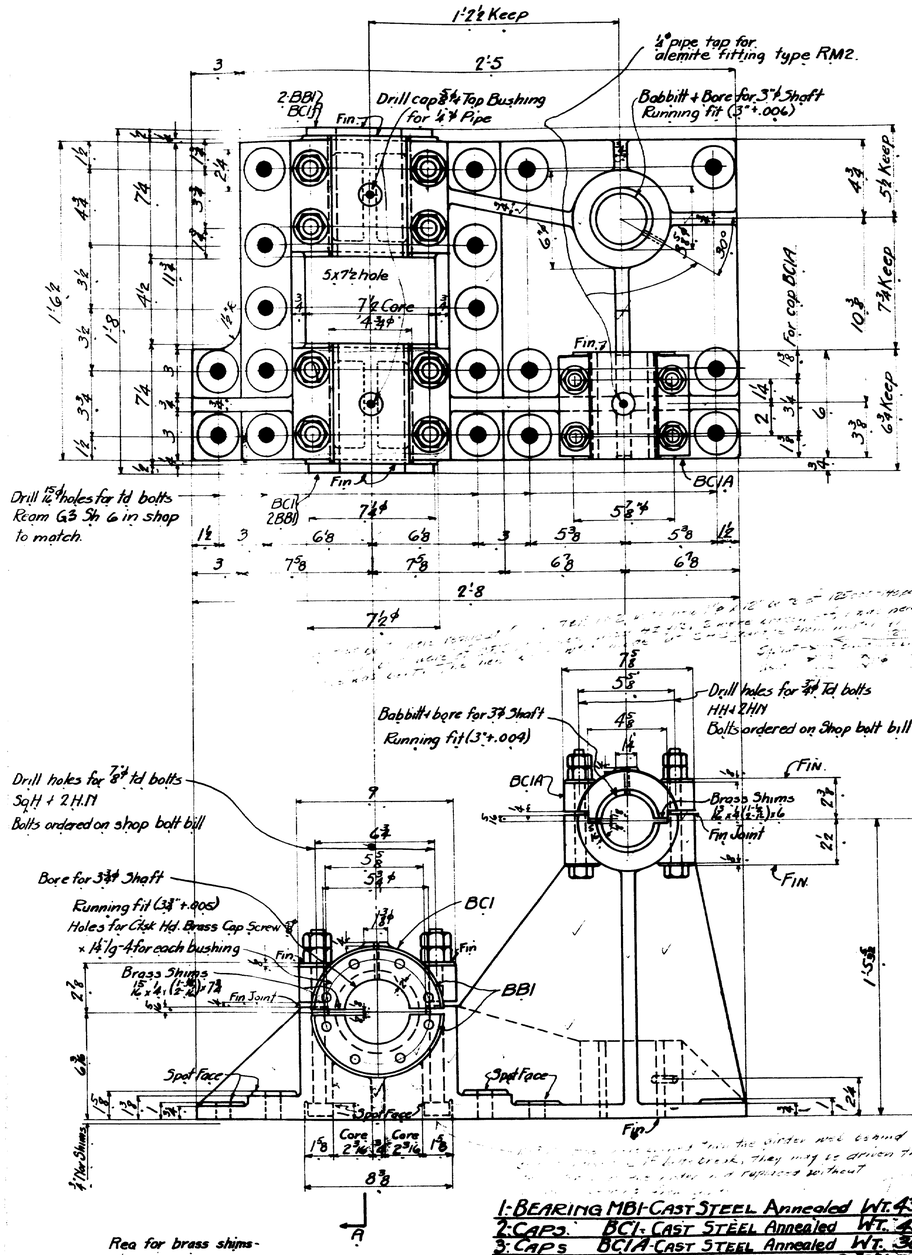
0 1 2 3 4 5 INCHES


1'-2½ Keep
2'-5
3
2-BBI
BCI
Fin.
Drill cap ⅝ Tap Bushing for ¼ Pipe
¼ pipe tap for alemite fitting type RM2.
Babbitt + Bore for 3" Shaft Running fit (3"+.004)
5x7½ hole
7½ Core
4⅜ Ø
Fin.
BCIA
For cap BCIA
5¼ Keep
7¾ Keep
6¾ Keep
Drill 15/16 holes for Td bolts Ream G3 Sh 6 in shop to match.
BCI (2BBI)
7¼ Ø
5⅞ Ø
2'-8
7½ Ø
Babbitt + bore for 3¼ Shaft Running fit (3"+.004)
Drill holes for 7/8" Td bolts HH + 2 H.N Bolts ordered on shop bolt bill
FIN.
Brass Shims 12 x ¼ (1'-7⅞) x 6
Fin Joint
Drill holes for 7/8" Td bolts S.H + 2 H.N Bolts ordered on shop bolt bill
Bore for 3¼ Shaft
Running fit (3¼"+.005)
Holes for C'sk Hd. Brass Cap Screw ⅝" x 1⅛ lg - 4 for each bushing
BBI
Spot Face
Core
8⅜
A
Req. for brass shims -
Req. for brass cap screws -
1-BEARING MBI-CAST STEEL Annealed Wt. 435# PATT No AA6024△
2-CAPS. BCI-CAST STEEL Annealed WT. 45# PATT No AA6025△ One for MBI
3-CAPS BCIA-CAST STEEL Annealed WT. 36# PATT No AA6026△ One for MBI
4-HALF BUSHINGS BBI-PHOS BRONZE GR. B WT. 10# PATT No AA6027△
2 OIL PIPES: OPI - Detailed on Sh#
Round Corners ¼ Smooth
TYPICAL CROSS SECTION View of Oil Groove in BBI
Oil Pipe OPI Detailed on Sh# 4 Pipe sleeve
Alemite fillings type RM2 4 Pipe Nipple tapped into bushing.
Drill Cap ⅝ for 4 pipe.
TYPICAL SECTION OF BEARING CAPS BCI- & BUSHING BBI
Fin.
5 3/8
1'-1¾
7⅞
5⅞
Drill holes for 3/4" Td Bolt H.H & 2 H.N Bolts ord. on shop bolt bill
4⅝
Babbitt & Bore for 3" shaft Running fit (3"+.004)
BCIA
Brass shims 12 x ¼ (1'-7⅞) x 6
Fin Joint
Spot Face
Drill 15/16" holes for Td Bolts Ream G3 Sh 6 in shop to match.
3½" Nor. Shims
ONE BEARING MB4 CAST STEEL ANNEALED WT 135# PATT No. AA6028△
ONE CAP BCIA Ordered with bearing MBI
Req. for Steel Castings - CS2675
do. do. Bronze do. - CB1917
Fin
5 Core
PART SECTION - A
Showing cored recesses for heads of cap bolts.
Note!
All babbitt to be well anchored with button cores.
Cut Oil grooves in all caps.
Revised: 6-6-30
0 1 2 3 4 5 INCHES
BEARINGS
J. A. Greenleaf & Sons Co.
Maine Highway Comm. Bridge Div.
GUT BRIDGE
Between
Rutherford Isl. & Mainland So. Bristol
One Bob-Tail Thru Plate Girder Draw Span.
69'-11" c. to c. Girders.
AMERICAN BRIDGE CO.
AMBRIDGE PLANT
Dwgs. made at Ambridge No. 5 in charge of Reehl
Detailed by WFR Date 6/16 Checked by L.H.E Date 5-17-30
Fld. conn. chk. by WKM Date 7/2/30
ORDER NO G3377M SHEET NO. 14
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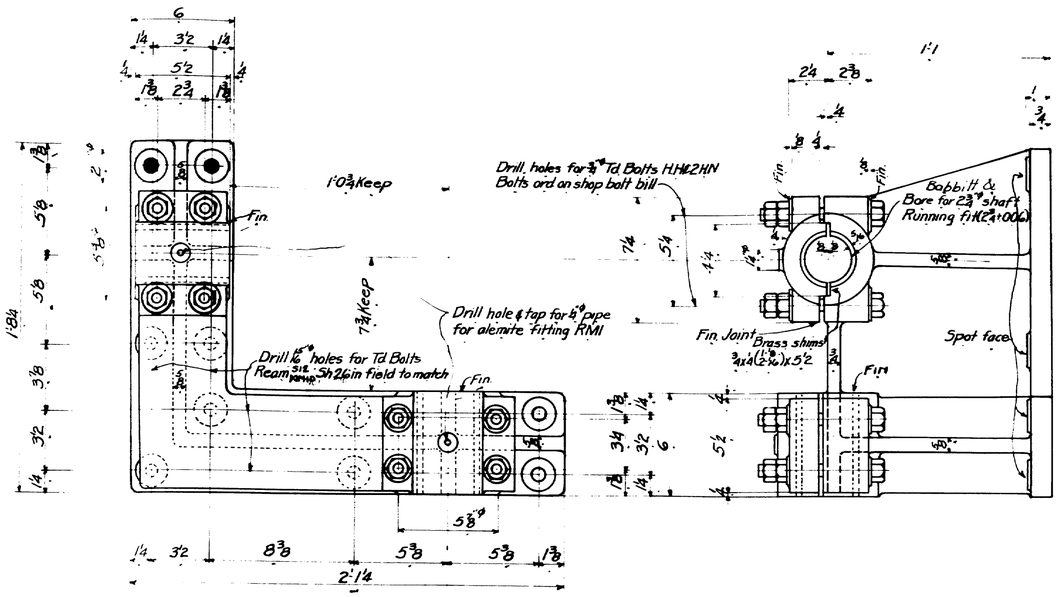
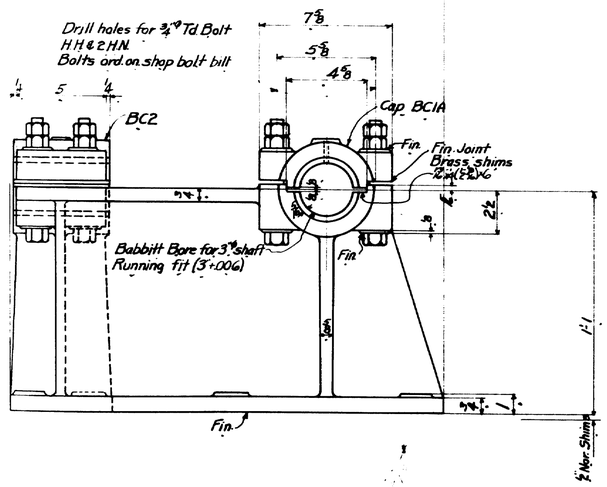
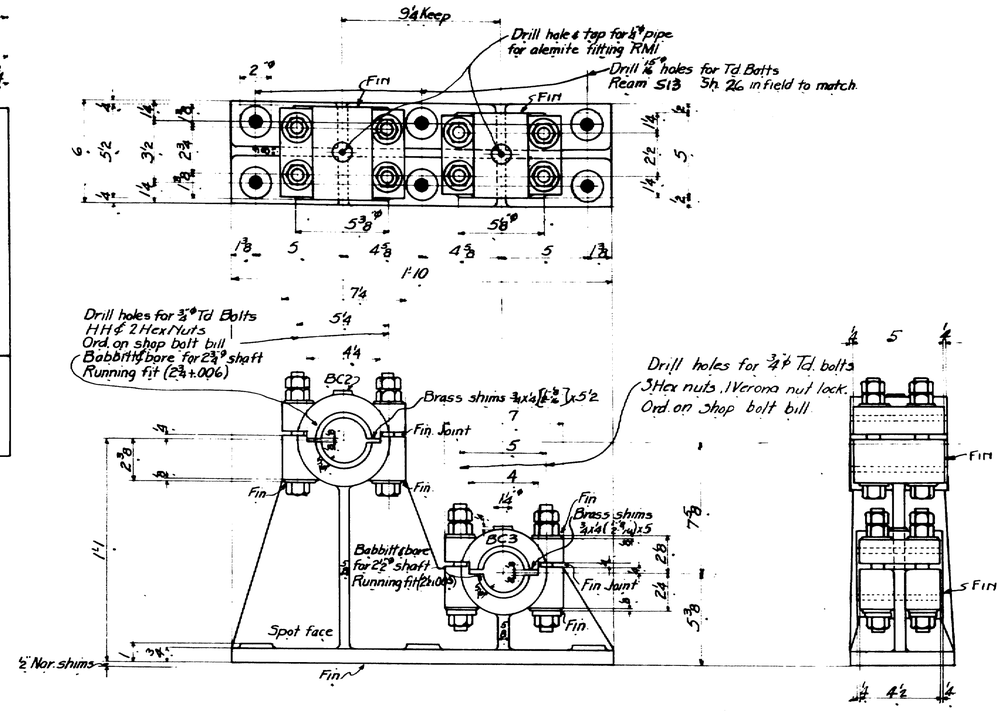



One Bearing MB2 - Cast Steel Annealed · Wt. 230# Patt. No. AA6029 A Req. 1
2 Caps BC2 - Cast Steel Annealed · Wt. 25 Patt. No. AA6030 A Req. (One for MB2. One for MB3)
One Cap BC1A - Ord. on Sh. # 14




One Bearing MB3 Cast Steel Annealed Wt. 110 Patt. No. AA6031 A Req. No. 1 - For MB3.
2 Caps BC3 Cast Steel Annealed Wt. 20 Patt. No. AA6032 A Req. No. 1 - For MB10
One Cap BC2 Ordered with MB2

Req. C52682

NOTE!
All babbitt to be well anchored with button cores.
Cut oil grooves in all caps.

BEARINGS

**J. A. Greenleaf & Sons Co.**
Maine Highway Comm. Bridge Div.
**GUT BRIDGE**
Between
**Rutherford Isl. & Mainland So. Bristol**
One Bob-Tail Thru Plate Girder Draw Span.
69'-11" c. to c. Girders.

**AMERICAN BRIDGE CO.**
**AMBRIDGE PLANT**
Dwgs. made at Ambridge No. 5 in charge of Reehl
Detailed by WFR Date 5/13/30 Checked by J.H.L. Date 7/9/30
Fld. conn. chk. by WKM Date 7/9/30
ORDER NO **G3377 M** SHEET NO. 15

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0 1 2 3 4 5 INCHES

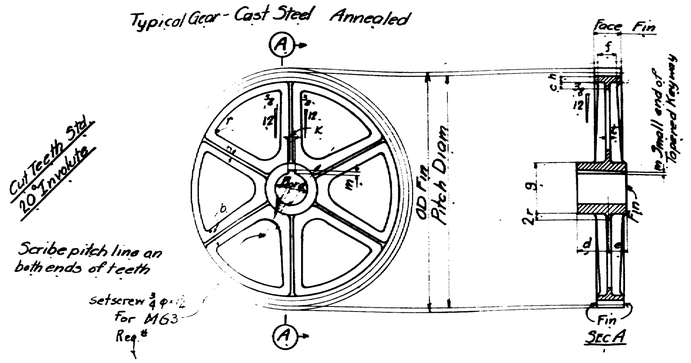
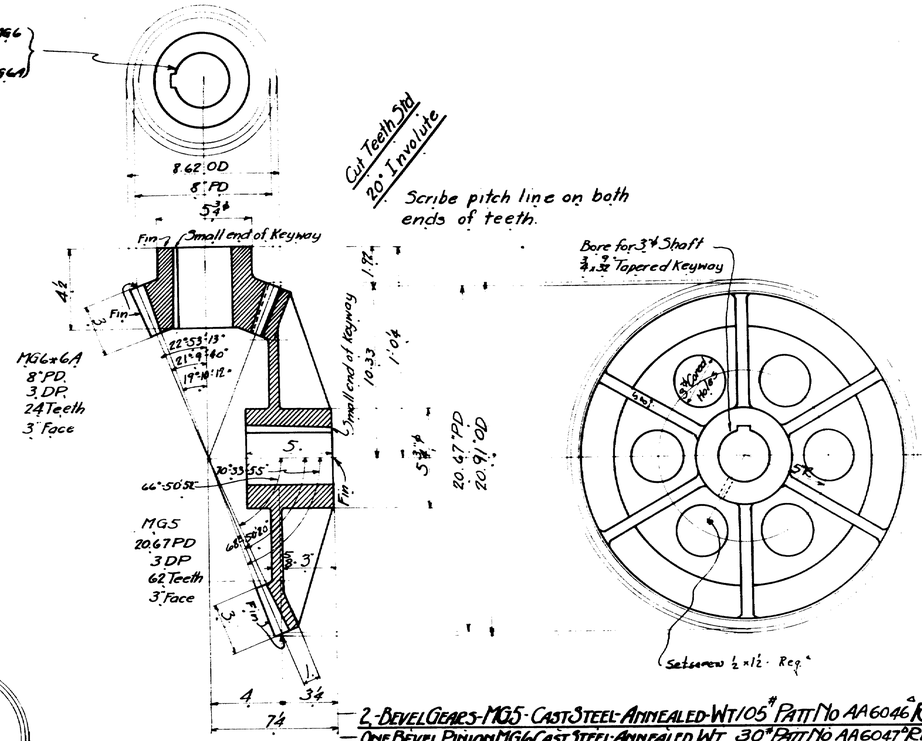



Table of Gears

| No Req | Mark | No of Teeth | Pitch DP | Pitch Diam | Face | Fin Dia | Shaft Dia | a | b | c | d | e | f | g | h | k | m | r | t | No of Keyway | Height Fin | Req No |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | MG3 | 81 | 3 | 27 | 3 | 27.67 | 3¾ | ½ | 2¼ | ⅜ | 3⅝ | 2 | 2 | 6½ | ½ | ⅜ | 5/16 | ½ | ½ | 1 | 160 | |
| 1 | MG9 | 72 | 4 | 18 | 2 | 18.5 | 2¾ | ½ | 1¾ | 5/16 | 2¼ | 2 | 1¼ | 4½ | ½ | ⅜ | 5/16 | ½ | ½ | 1 | 65 | |
| 1 | MG14 | 60 | 2 | 30 | 2½ | 31 | 3½ | 5/8 | 4¾ | 1/2 | 3½ | 1¾ | 2 | 6¼ | 13/16 | 5/8 | 5/16 | 4¾ | ¾ | 1 | 275 | |
| 1 | MG16 | 45 | ½ | 30 | 2½ | 31.33 | 4 | 5/8 | 4¾ | 1½ | 3½ | 2¼ | 2 | 6¾ | 1 | 1 | 11/32 | 1 | ¾ | 1 | 280 | |

Matl No. Ship

AA6043^a On MS1
AA6044^a On MS4
AA6045^a On MS10
AA6045^a Chg. Loose




2-BEVEL GEARS-MG5-CAST STEEL-ANNEALED-WT 105# PATT NO AA6046^a REQ
ONE BEVEL PINION MG6 CAST STEEL ANNEALED WT 30# PATT NO AA6047^a REQ
ONE BEVEL PINION MG6A CAST STEEL ANNEALED WT. 30# PATT NO AA6047^a REQ

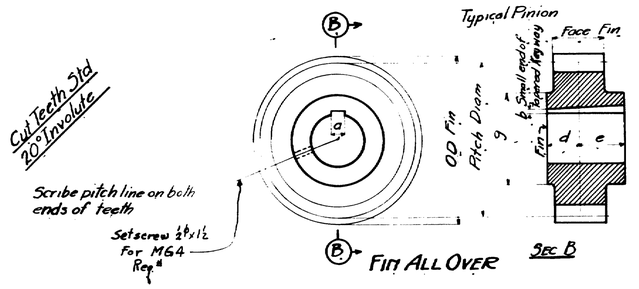
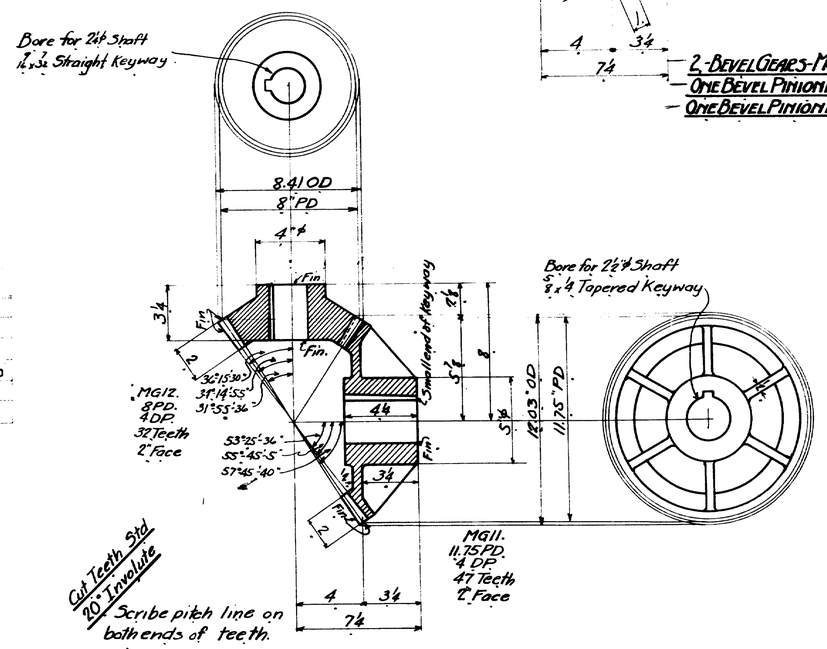



Table of Pinions

| No Req | Mark | No of Teeth | Pitch DP | Pitch Dia | Face | Fin Dia | Shaft Dia | No of Keyways | a | b | d | e | g | Weight | Item No | Material Item | Ship |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | MG4 | 28 | 3 | 9.33 | 3 | 10 | 3 | 1 | ¾ | 3/32 | 1 7/8 | 2 5/8 | 5¼ | 65# | | Forged | Loose |
| 1 | MG10 | 24 | 4 | 6 | 2 | 6½ | 2½ | 1 | 5/8 | 4 | 2¼ | 1¾ | 4¼ | 20# | | Forged | Loose |
| 1 | MG13 | 14 | 2 | 7 | 2½ | 8 | 2¾ | 1 | 7/16 | 3/32 | 1 | 2 | 4 | 29# | | Forged | Loose |
| 1 | MG15 | 14 | ½ | 9.33 | 2½ | 10.67 | 3½ | 1 | 5/8 | 1/16 | 2 | 3 | 6 | 64# | | Forged | Do MS10 |




ONE BEVELED GEAR-MG11-CAST STEEL-ANNEALED WT. 50 PATT NO AA6048^a REQ
ONE BEVEL PINION-MG12-CAST STEEL-ANNEALED WT. 25 PATT NO. AA6049^a REQ

Req. for Gears. 25754 Amb.
Note to shop! Ambridge machine shop to tap gears MG3, MG4, and MG5 for set screws as shown.

GEARS

J. A. Greenleaf & Sons Co.
Maine Highway Comm. Bridge Div.
GUT BRIDGE
Between
Rutherford Isl. & Mainland So. Bristol
One Bob-Tail Thru Plate Girder Draw Span.
69'-11" c. to c. Girders.

AMERICAN BRIDGE CO.
AMBRIDGE PLANT
Dwgs. made at Ambridge No. 5 in charge of Reehl
Detailed by N F R Date Checked by L A E Date 7/21/30
Fld. comm. chk. by W K M Date 7/2/30
ORDER NO G3377^m SHEET NO. 16

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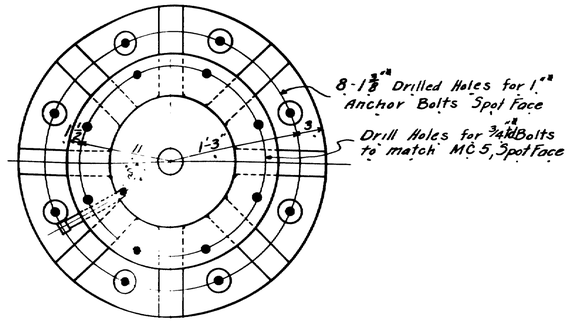
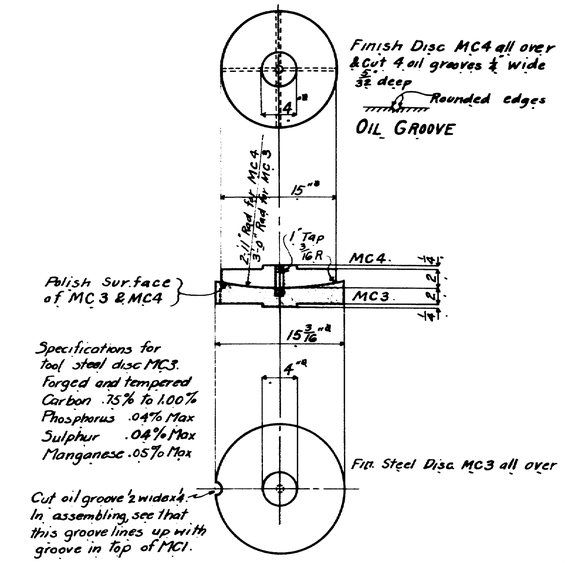
Rev. 6-24-30

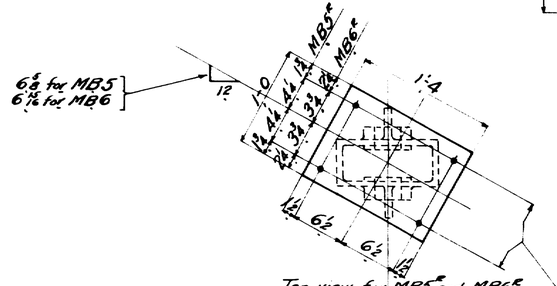
0 1 2 3 4 5 INCHES



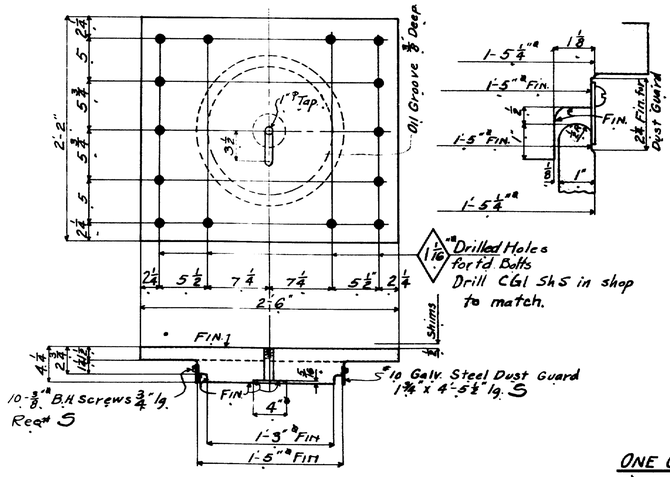

ONE CENTER CASTING-MC1-CAST STEEL-WT. 1375# -PATT. No. AA6035△
Annealed.
Req# CS2682

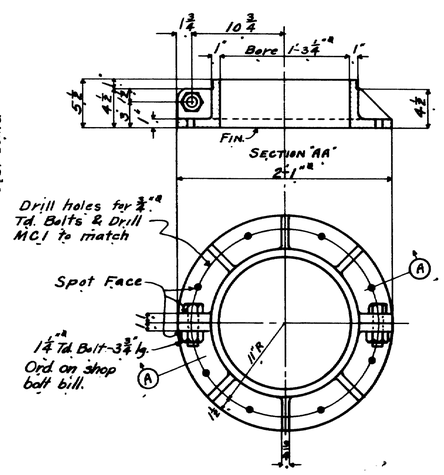


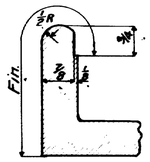

ONE BOTT. DISC-MC3-TOOL STEEL FORGING-WT 117# -Item# Stock
ONE TOP DISC-MC4-PHOS. BRONZE-WT. 91# PATT. No. A 1854 -Req# CB1922
Grade "A"

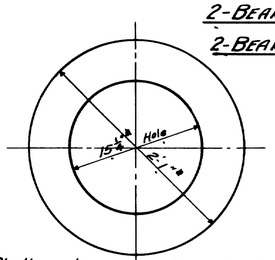



6-BALANCE WHEELS MW6-CAST STEEL ANNEALED
WT. 75# PATT. No. AA6039△ REQ. No. CS2682
12-BUSHINGS-BB2-PHOS. BRONZE GRADE "B"
WT. 4 1/2# PATT. No. AA6040△ REQ. No. CB1922
(one half)



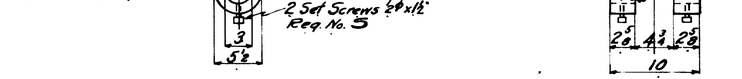




Shellac when assembling with MC1+MC5

ONE 10 OZ. CANVAS GASKET-MA1 Req. No. S

ONE OIL RING (Two Halves) MC5-CAST STEEL-WT. 115# PATT. No. AA6037△ (One Half)
Annealed
Req# CS2682




2-BEARINGS-1MB5E, 1MB5L-CAST STEEL-WT. 115# PATT. No. AA6038△ Annealed.
2-BEARINGS-1MB6E, 1MB6L-CAST STEEL-WT. 115# PATT. No. AA6038△ Changed } Req CS2682
2-BEARINGS-MB7-CAST STEEL-WT. 130# PATT. No. AA6038△-Changed
Annealed

ONE TOP CASTING-MC2-CAST STEEL-WT. 540# PATT. No. AA6036△
Annealed
Req# CS2682

Center and Balance Wheels

**J. A. Greenleaf & Sons Co.**
Maine Highway Comm. Bridge Div.
**GUT BRIDGE**
Between
Rutherford Isl. & Mainland So. Bristol
One Bob-Tail Thru Plate Girder Draw Span.
69'-11" c. to c. Girders.

**AMERICAN BRIDGE CO.**
AMBRIDGE PLANT
Dwgs. made at Ambridge No. 5 in charge of Reshi
Detailed by LDD Date 5-17-30 Checked by ALE Date 5/31/30
Fld. comm. chk. by WKM Date 7/2/30
ORDER NO G3377 SHEET NO. 17
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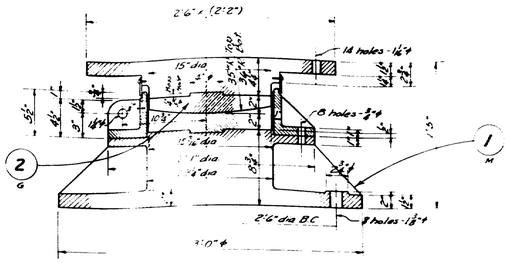
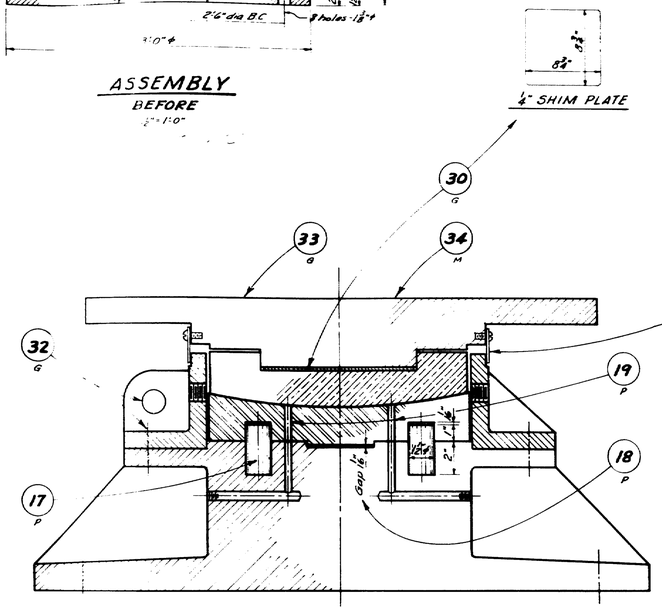
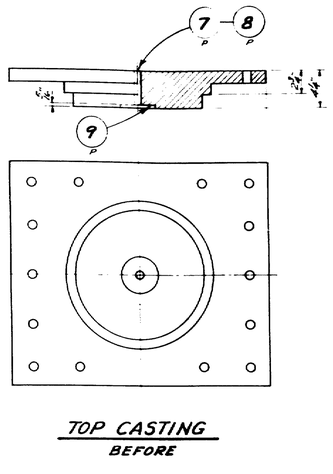
0 1 2 3 4 5 INCHES



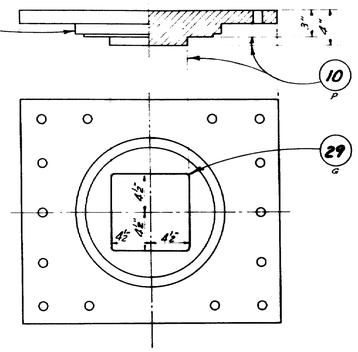

ASSEMBLY
BEFORE
3"=1'0"



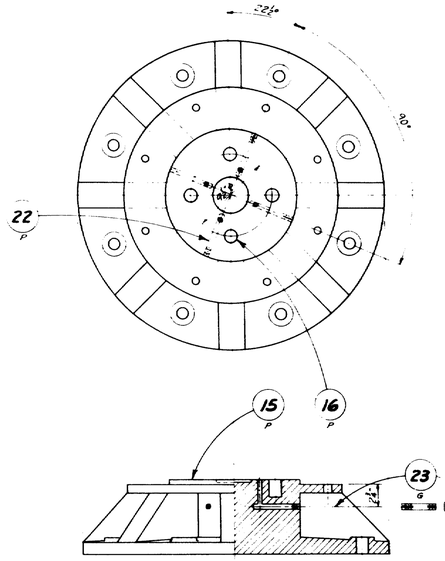

ASSEMBLY
AFTER
3"-1'0"



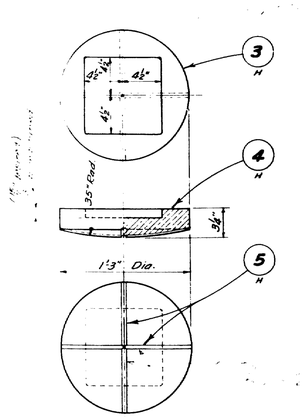

TOP CASTING
BEFORE



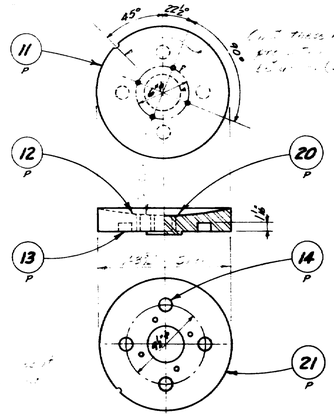

TOP CASTING
AFTER



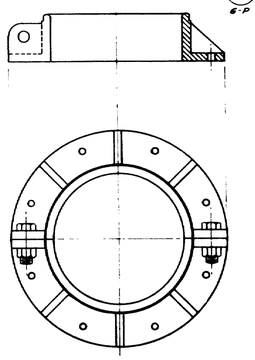

BOTTOM CASTING
BEFORE & AFTER



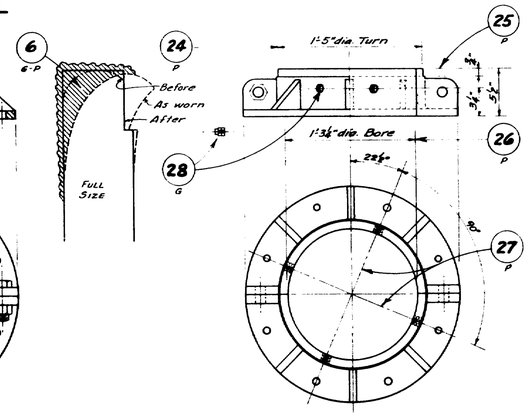

UPPER DISC
NEW




LOWER DISC
AFTER




OIL RING
BEFORE




OIL RING
AFTER

## WORK SCHEDULE

| ORDER OF OPERATION | | DESCRIPTION |
|---|---|---|
| | | ASSEMBLY |
| 1 | M | Remove complete pivot from bridge. |
| 18 | P | Assemble and check ½" gap. Correct if necessary. |
| 19 | P | Drill 4-¾" dia grease holes assembled. |
| 32 | G | Furnish new bolts for oil ring. |
| 33 | G | Reassemble pivot in shop and check operation. |
| 34 | M | Install pivot in bridge. |
| | | TOP CASTING |
| 7 | P | Plug oil holes by welding. |
| 8 | P | Grind smooth. |
| 9 | P | Deposit ⅛" of weld material before planing. |
| 10 | P | Plane to these lines. |
| 29 | G | Round corners to fit upper disc. |
| 31 | G | Make new dust seal. |
| | | UPPER DISC |
| 2 | G | Discard old worn disc. |
| 3 | H | Cast new bronze disc. |
| 4 | H | Machine all over. |
| 5 | H | Cut 2 grease grooves. |
| 30 | G | Make ¼" shim plate. |
| | | LOWER DISC |
| 11 | P | Draw temper of hardened tool steel. |
| 12 | P | Rusted - Polish this face. |
| 13 | P | Scored - Reface smooth. |
| 14 | P | Bore 1½" dia. holes, 1⅛" deep for dowels. |
| 20 | P | Round edges of ⅝" dia. holes. |
| 21 | P | Reharden disc. |
| | | OIL RING |
| 6 | 6-P | Build up worn areas with weld material. |
| 24 | P | 1'-5" Dia turn. |
| 25 | P | Face to this line. |
| 26 | P | 1'-3¾" Dia bore inside of oil ring. |
| 27 | P | Drill and tap 4 holes for ¾" dia pipe plugs. |
| 28 | G | Install ¾" dia pipe plugs. |
| | | BOTTOM CASTING |
| 15 | P | Scored - Reface smooth. |
| 16 | P | Bore 4 - 1½" dia holes 2" deep for dowels. |
| 17 | P | Make 4 - 1½" dia dowels, 3" long. |
| 22 | P | Drill 4 holes and tap for ¾" dia pipe. |
| 23 | G | Install ¾" dia pipes, 4" long with couplings & grease fittings. |

Symbols showing work done by:

| | | |
|---|---|---|
| H | J.F. Hodgkins Co., machinists. | Randolph |
| G | State Highway Garage. | Augusta |
| P | The Portland Company. | Portland |
| M | S.H.C., Bridge Div. Maintenance crew. | |

DESIGN - HARRIS
TRACE - HARRIS

BRIDGE NO. 2339

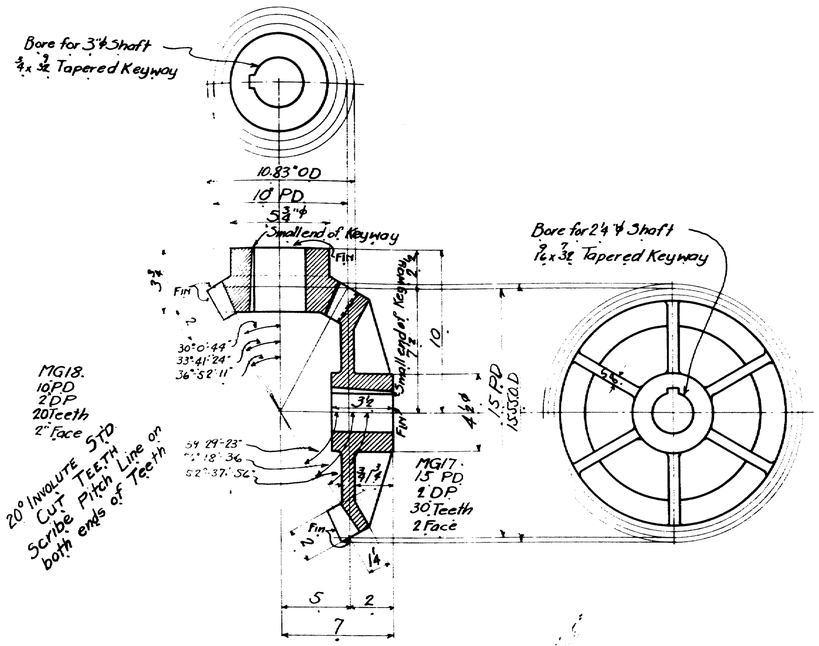
STATE HIGHWAY COMMISSION
BRIDGE DIVISION

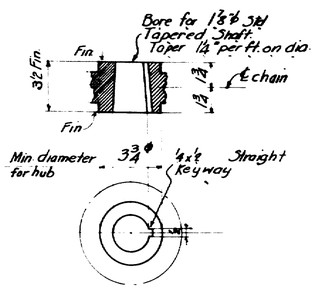
# GUT BRIDGE
BETWEEN
RUTHERFORD ISLAND
AND
MAINLAND
SOUTH BRISTOL
LINCOLN COUNTY
CENTER PIVOT REPAIRS

SHEET 1 OF 1 AUGUSTA, MAINE AUG. 1958

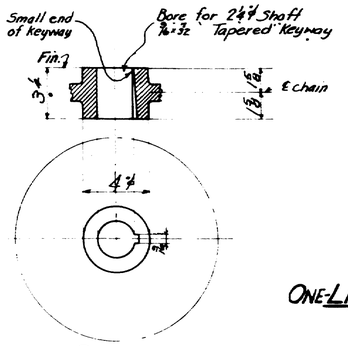
10-21 A

0 1 2 3 4 5 INCHES




**DRIVER**
ONE SPROCKET-SP1-25 Teeth 6.01 dia
For 1/4" Pitch chain 2" wide
Ordered from Link Belt Co.
Req # 25804 Amb.



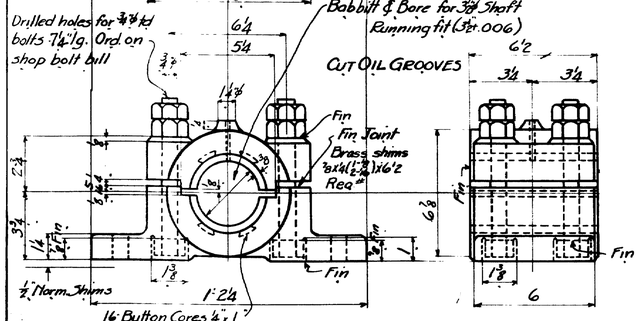

**DRIVEN**
ONE SPROCKET-SP2-50 Teeth-11.99 dia
For 1/4" Pitch chain 2" wide
Ordered from Link Belt Co.
Req # 25804 Amb.

**ONE LINK BELT SILENT CHAIN**
1/4" Pitch - 2" Face
Length of chain 76.486"
Ordered from Link Belt Co.
Req # 25804 Amb.

**ONE BEVEL GEAR MG17 CAST STEEL Annealed WT 75# PATT. NO. AA6053 REQ 25754 Amb.**
**ONE BEVEL PINION MG18 CAST STEEL Annealed WT. 30# PATT. NO. AA6054 REQ. 25754 Amb.**

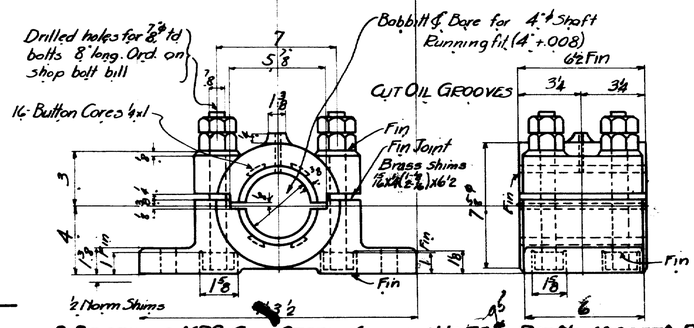
Finished Scts 22



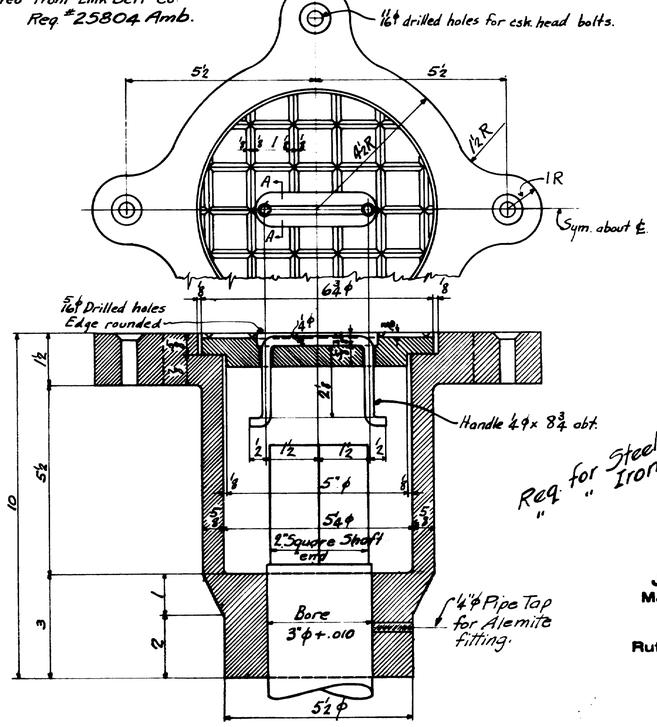



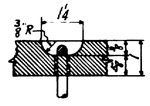

**2 BEARINGS MB8 CAST STEEL - Annealed WT 65# PATT. NO AA6055 # REQ**
**2 BEARING CAPS BC8 CAST STEEL WT. 35# PATT. NO AA6056 ▲ REQ**
Annealed




**2 BEARINGS MB9 CAST STEEL - Annealed WT. 75# PATT. NO. AA6057 ▲ REQ**
**2 BEARING CAPS BC9 CAST STEEL WT. 45# PATT. NO. AA6058 ▲ REQ**
Annealed




SECTION A-A

**2 CAPSTAN SHAFT GUARDS MC9 - CAST IRON - WT. 60#**
PATT. No. AA6059 ▲
**2 COVERS MC10 - CAST IRON - WT. 7# - PATT. NO. AA6060 ▲**
Req. No.

Rev. 6-20-30
Rev. 7-2-30

Req. for Steel Castings - CS-2696 CI-1939
" " " Iron "

**J. A. Greenleaf & Sons Co.**
Maine Highway Comm. Bridge Div.
**GUT BRIDGE**
Between
Rutherford Isl. & Mainland So. Bristol
One Bob-Tail Thru Plate Girder Draw Span.
69'-11" c. to c. Girders.

**AMERICAN BRIDGE CO.**
AMBRIDGE PLANT
Dwgs. made at Ambridge No. 5 in charge of Reehl
Detailed by DWD Date 7/1/30 Checked by LAE Date 7/14/30
Fld. conn. chk. by MKM Date 7/2/30
ORDER NO G3377 M SHEET NO. 18

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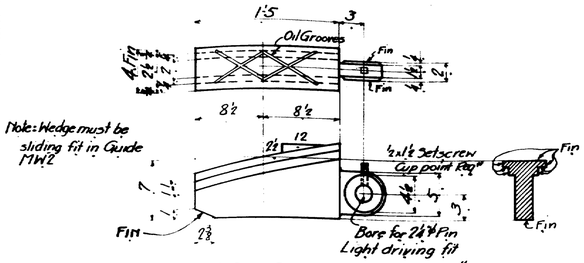
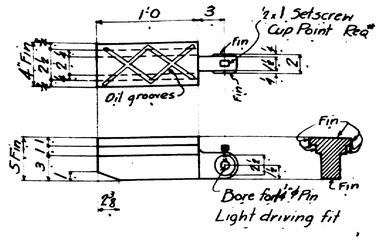
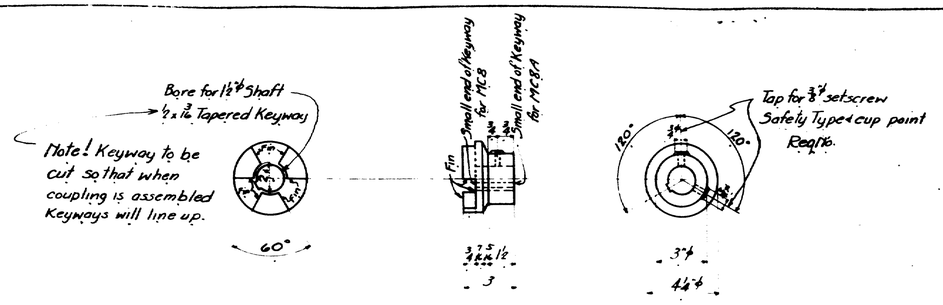


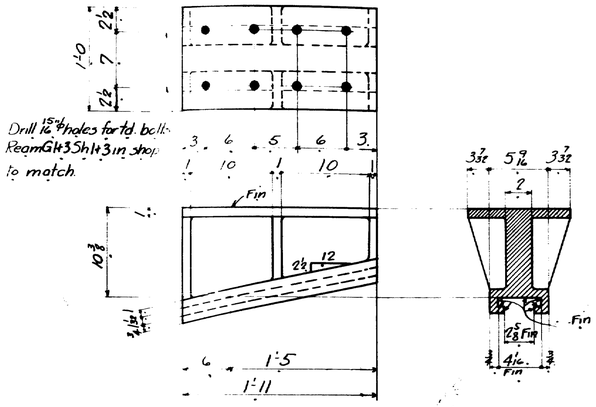

2-WEDGES MW1-CAST STEEL-Annealed WT.100# PATT.NO AA6064△
REQ.NO. CS2696

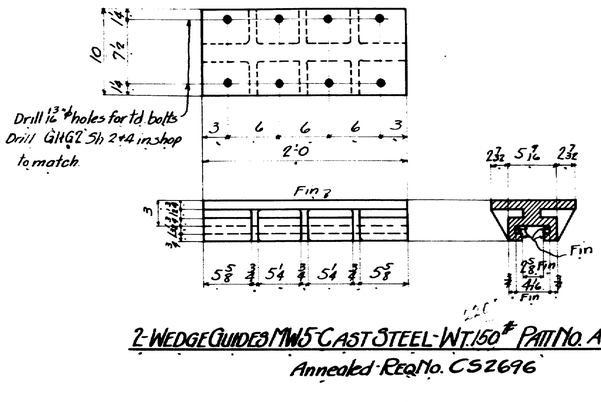


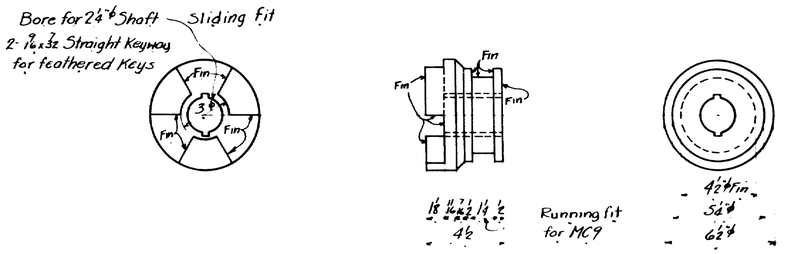

2-WEDGES MW4-CAST STEEL-Annealed WT.52# PATT.NO AA6065△
REQ.NO CS2696



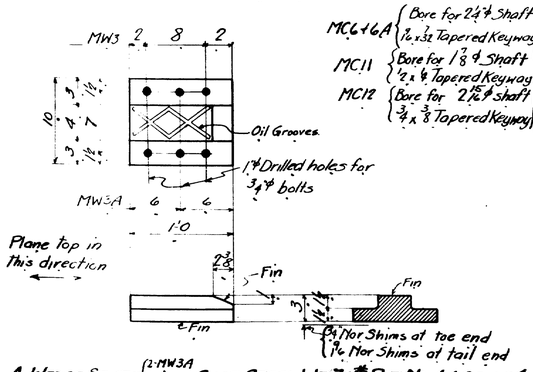

2-HALF COUPLINGS MC8 MC8A-CAST STEEL-Annealed WT. 7 PATT.NO AA6069△ REQ CS2696



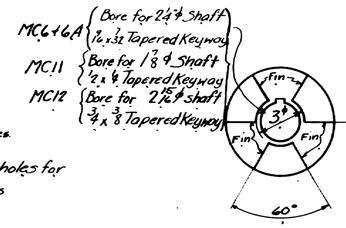



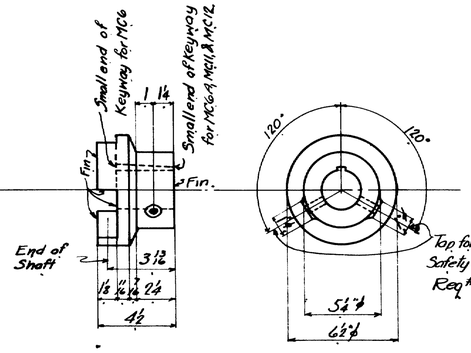




2-HALF COUPLINGS-MC7-CAST STEEL-Annealed WT.25# PATT.NO AA6071△ REQ CS2696

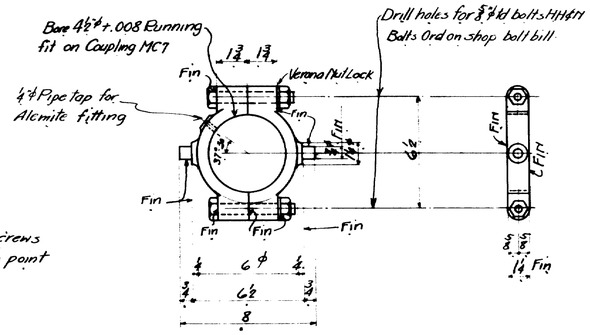



4-WEDGE SEATS {2-MW3A / 2-MW3} -CAST STEEL WT.70# PATT.NO AA6068△
Annealed REQ CS2696




{MC11 / MC12 / MC6 / MC6A} CAST STEEL-ANNEALED-WT. 21# PATT.NO. AA6071△
28# AA6071△ Changed
24# AA6071△ "
REQ CS2696




2 COLLARS (4 Halves) MC10 PHOS. BRONZE GRADE C-WT. 8# PATT. NO. AA6072△ REQ CB1938

Note: Couplings on this sheet to be paired as follows:-
MC6A - MC7
MC6 - MC12
MC11 - MC7
MC8 - MC8A

WEDGES, COUPLINGS, ETC

**J. A. Greenleaf & Sons Co.**
Maine Highway Comm. Bridge Div.
**GUT BRIDGE**
Between
Rutherford Isl. & Mainland So. Bristol
One Bob-Tail Thru Plate Girder Draw Span.
69'-11" c. to c. Girders.

**AMERICAN BRIDGE CO.**
**AMBRIDGE PLANT**
Dwgs. made at Ambridge No. 5 in charge of Reehl
Detailed by MFE Date 5/19/30 Checked by L.A.E. Date 5/21/30
Fld. conn. chk. by W.K.M. Date 7/2/30
ORDER NO G3377 SHEET NO. 19

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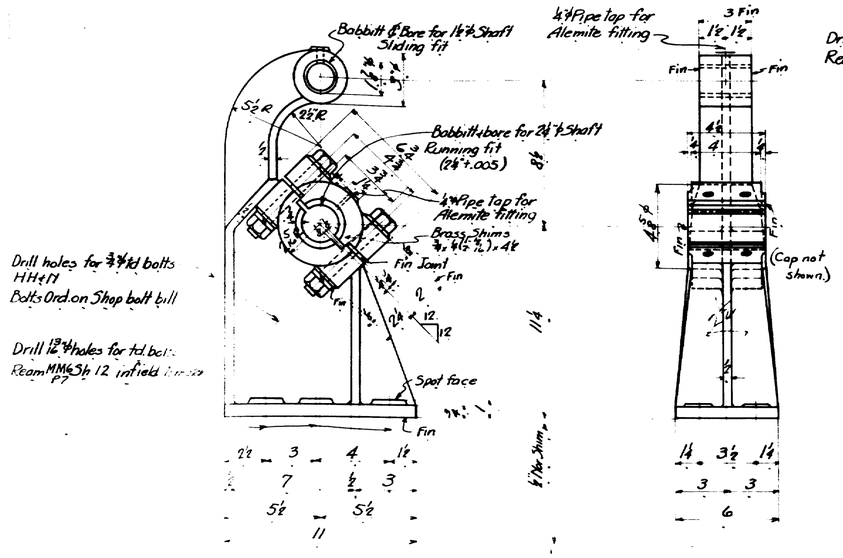
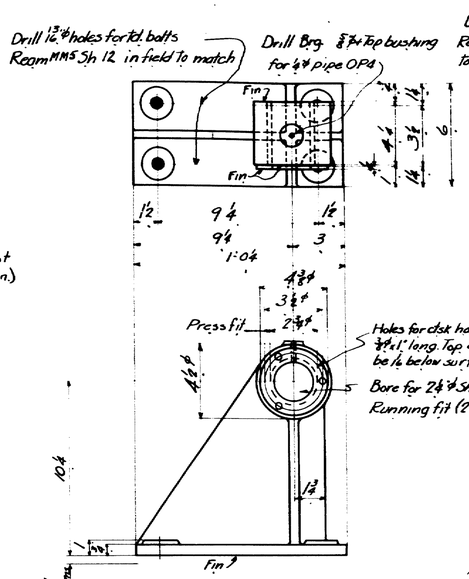
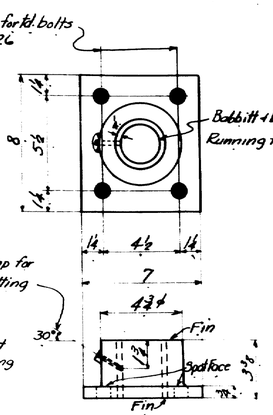
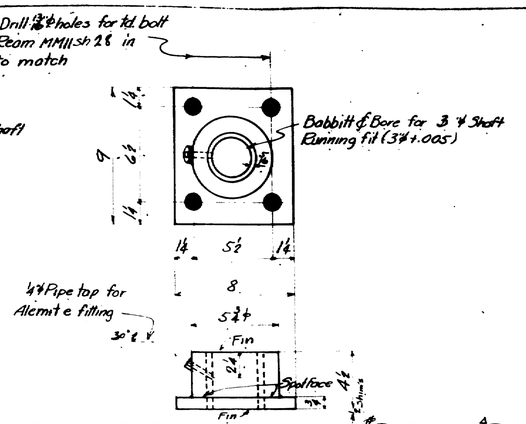


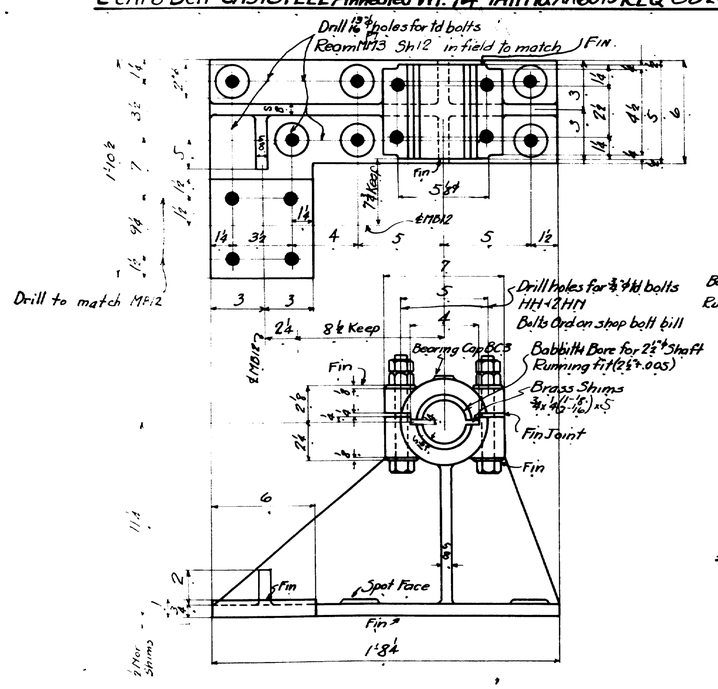



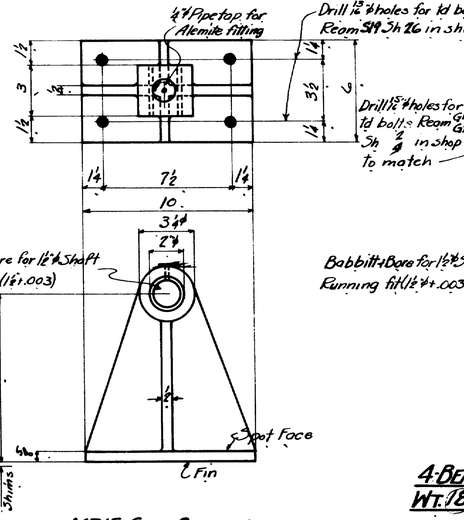

ONE BEARING MB14 CAST STEEL ANNEALED WT. 38# PATT. NO. AA6079 △ REQ. C52696

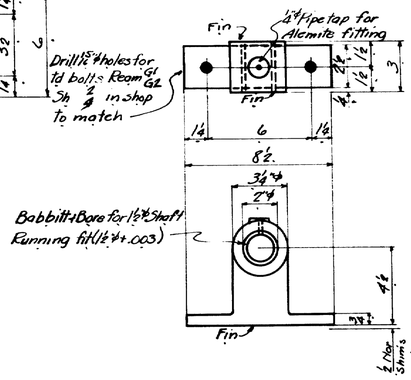
3 BEARINGS MB13 CAST STEEL ANNEALED WT. 25# PATT. NO. AA6080 △ REQ. C52696

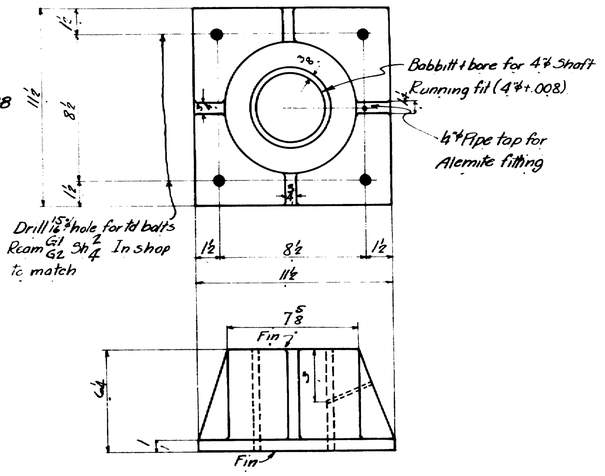
2 BEARINGS MB11 CAST STEEL Annealed WT. 80# PATT. NO. AA6074 △ REQ. C52696
2 CAPS BC11 CAST STEEL Annealed WT. 14# PATT. NO. AA6073 △ REQ. C52696




2 BEARINGS MB12 CAST STEEL Annealed WT. 47# PATT. NO. AA6081 △ REQ. C52696
2 BUSHINGS BB12 PHOS BRONZE GRADE C WT. 4# PATT. NO. AA6082 △ REQ. C81938




ONE BEARING MB15 CAST STEEL Annealed WT. 32# PATT. NO. AA6076 △ REQ. C52696

4 BEARINGS MB16 CAST STEEL Annealed WT. 18# PATT. NO. AA6077 △ REQ. C52696

2 BEARINGS MB17 CAST STEEL Annealed WT. 95# PATT. NO. AA6078 △ REQ. C52696

ONE BEARING MB10 CAST STEEL Annealed WT. 119 PATT. NO. AA6075 REQ. C52696
ONE CAP BC3 Ordered with MB3

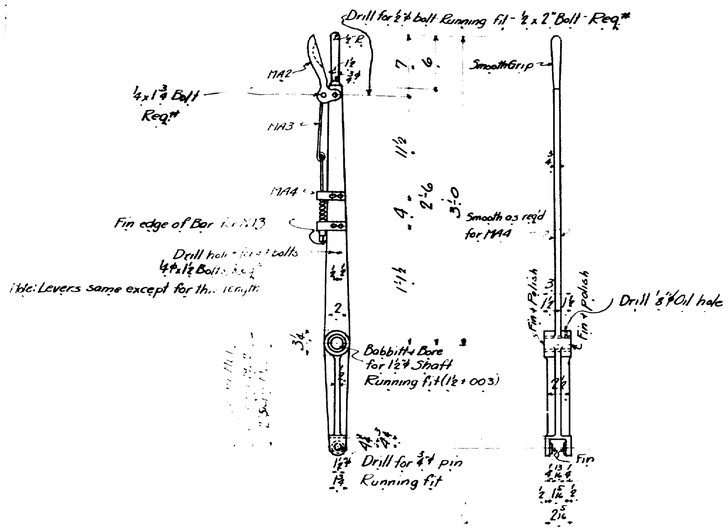
BEARINGS

J. A. Greenleaf & Sons Co.
Maine Highway Comm. Bridge Div.
GUT BRIDGE
Between
Rutherford Isl. & Mainland So. Bristol
One Bob-Tail Thru Plate Girder Draw Span.
69'-11" c. to c. Girders.

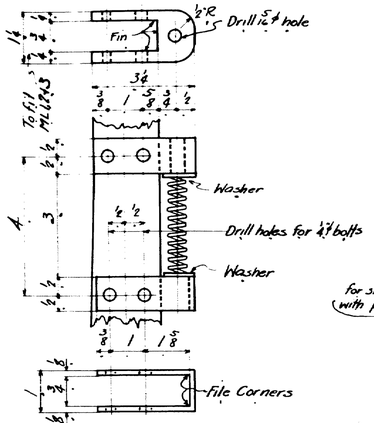
Note: All babbitt to be well anchored with button cores. Cut oil grooves in all caps.

AMERICAN BRIDGE CO.
AMBRIDGE PLANT
Dwgs. made at Ambridge No. 5 in charge of Reehl
Detailed by W.R.E. Date 5/12/30 Checked by L.H.E. Date 6/3/30
Fld. comm. chk. by W.K.M. Date 7/2/30
ORDER NO G3377 SHEET NO. 20
COPYRIGHT AMERICAN BRIDGE COMPANY 1930.

0 1 2 3 4 5 INCHES

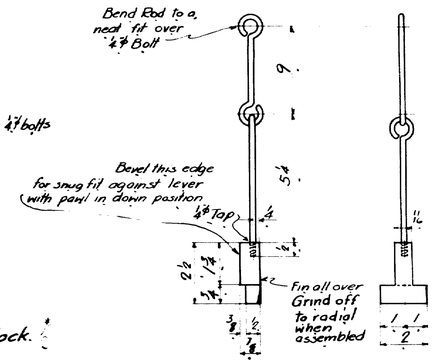



**ONE LEVER ML1** CAST STEEL Annealed WT. 43# PATT. NO. AA6084^a REQ. CS2697
**ONE LEVER ML2** CAST STEEL Annealed WT. 55# PATT. NO. AA6084^a chg. REQ. CS2697
**ONE LEVER ML3** CAST STEEL Annealed WT. 60# PATT. NO. AA6084^a chg. REQ. CS2697



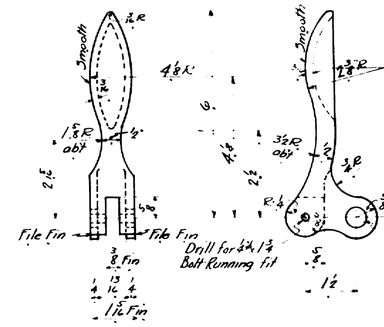

**3-LATCH GUIDES MA4** – Stock.

Assemble with ML1,2 & 3
- 4- Washers Std. for ¾" bolts
- 3- Springs 3½" long ½ O.D. Dia. No. 14 Gage Copper Coated Spring Wire 1111g
- 3- Latch Kp. Bars 3¼ x 1 x 1¼
- 3- Latch Kp. Straps 1⅛ x 7¼ abt.



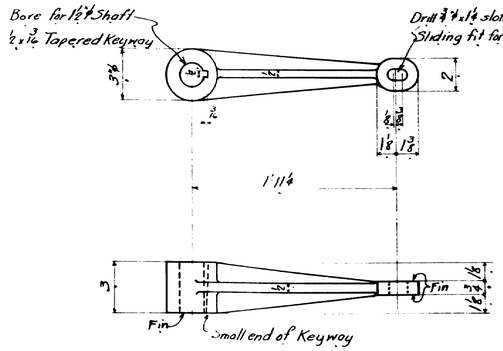

**3-LATCH LEVERS MA3**

Assemble with ML1,2 & 3 — Stock.
- 3- Pieces ¾" Rod abt 1'0 long
- 3- Pieces ¾" Rod abt 7¼ long
- 3- Latch Bars 2 x ⅜ x 2'2

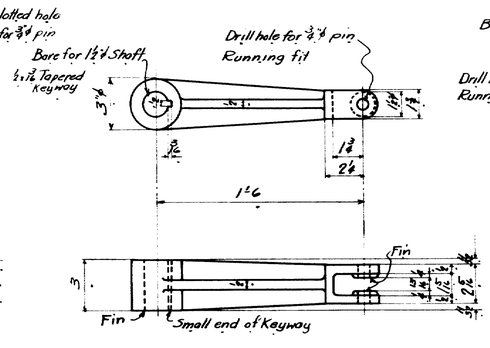



Assemble with ML1,2 & 3

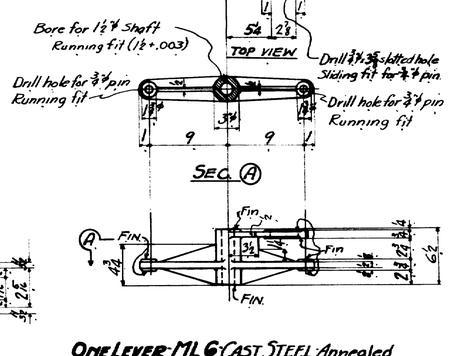
**3-LATCH LEVERS MA2** – CAST BRASS
WT. 2# PATT. NO. AA5828^a
CB1942



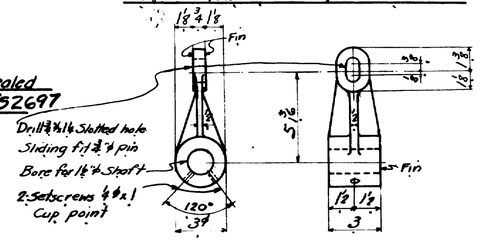

**ONE LEVER ML4** CAST STEEL Annealed WT. 17#
PATT. NO. AA6085^a REQ. CS2697



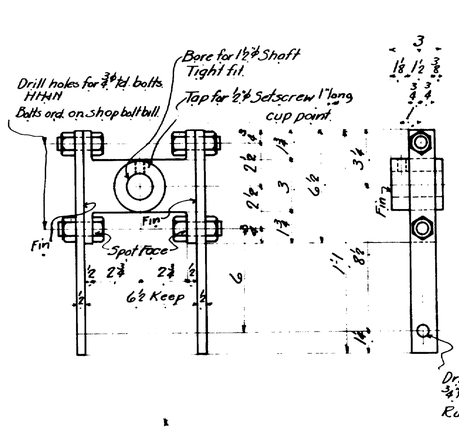

**ONE LEVER ML5** CAST STEEL Annealed
WT. 17# PATT. NO. AA6086^a REQ. CS2697



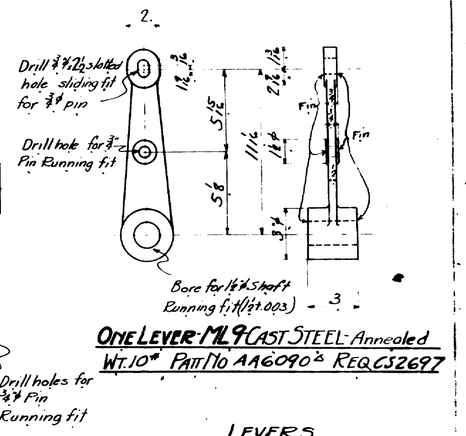

**ONE LEVER ML6** CAST STEEL Annealed
WT. 25# PATT. NO. AA6087^a REQ. CS2697




**ONE LEVER ML7** CAST STEEL Annealed WT. 7#
PATT. NO. AA6088^a REQ. CS2697




**2-LEVERS ML8** CAST STEEL Annealed
WT. 12# PATT. NO. AA6089^a REQ. CS2697
4- Bars 1¼ x ½ x 1'-1 Item No. 5#




**ONE LEVER ML9** CAST STEEL Annealed
WT. 10# PATT. NO. AA6090^a REQ. CS2697

LEVERS

**J. A. Greenleaf & Sons Co.**
Maine Highway Comm. Bridge Div.
**GUT BRIDGE**
Between
**Rutherford Isl. & Mainland So. Bristol**
One Bob-Tail Thru Plate Girder Draw Span.
69' - 11" c. to c. Girders.

**AMERICAN BRIDGE CO.**
**AMBRIDGE PLANT**
Dwgs. made at Ambridge No. 5 in charge of Reehl
Detailed by WFR Date 6-7-30 Checked by LAE Date 6-7-30
Fld. comm. Chkd. by WKM Date 7/2/30
ORDER NO G3377^M SHEET NO. 26

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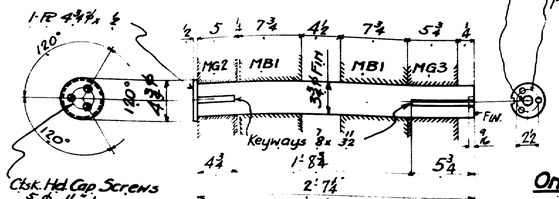
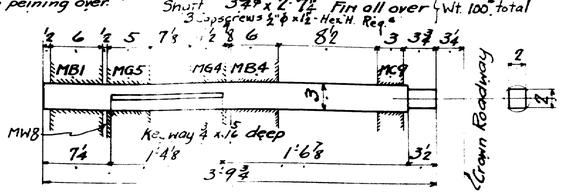
0 1 2 3 4 5 INCHES



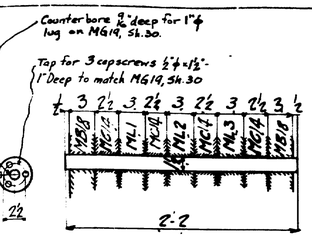

**ONE SHAFT-MS1 -- Rolled Steel Item #5**

Shaft 3 3/4 Φ x 2'-7 7/8 Fin all over } Wt. 100# total
3 capscrews ½ Φ x 1½ - Hex. H. Req'd




**ONE SHAFT-MS2 - C.R. Steel - Req'd #25793 Amb.**

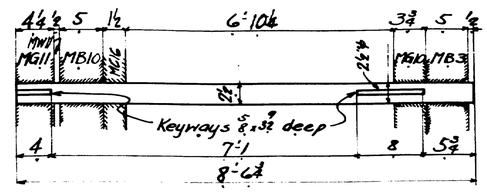
Shaft 3Φ x 3'-9¾ - Wt. 88#




**ONE SHAFT MS16 C.R. Steel Req'd #5**

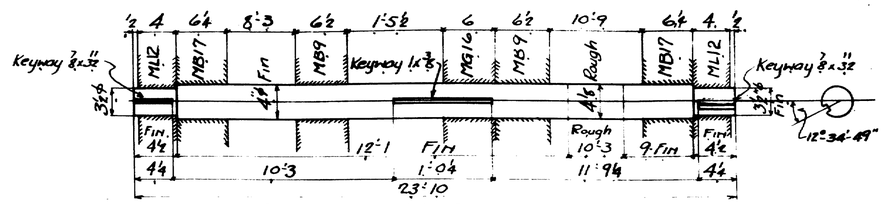
Shaft 1½ Φ x 2'-7

Wt. 13#




**ONE SHAFT-MS5 - C.R. Steel Req'd #25793 Amb.**

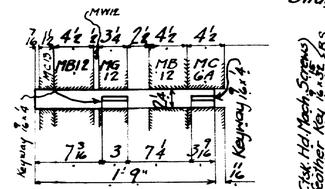
Shaft 2½ Φ x 8'-6¾ - Wt. 143#




**ONE SHAFT-MS11 - Rolled Steel Item 5**

Shaft 4Φ Fin x 23'-10

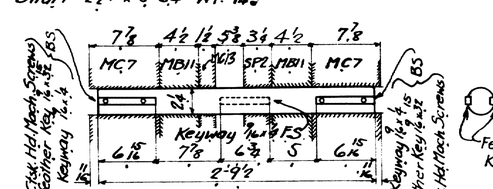
Wt. 1010#




**ONE SHAFT MS6 C.R. Steel Req'd 25793 Amb.**

Shaft 2¼ Φ x 1'-9

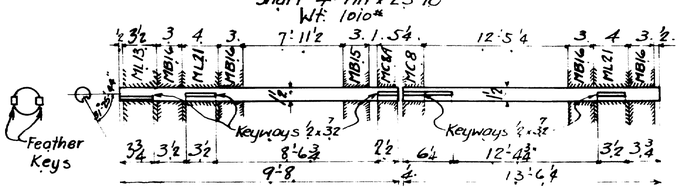
Wt. 24#




**ONE SHAFT MS7 C.R. Steel Req'd #25793 Amb.**

Shaft 2¼ Φ x 2'-9½

4 Feather Keys ¼ x 15/32 x 6 15/16 } Wt. 39# total




**ONE SHAFT MS12 C.R. Steel Req'd #5**

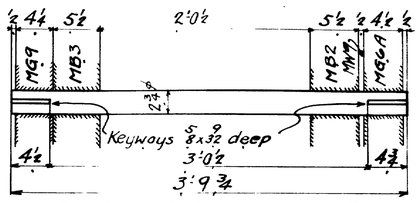
Shaft 1½ Φ x 9'-8

Wt. 58#

**ONE SHAFT-MS13 - C.R. Steel Req 25793 Amb.**

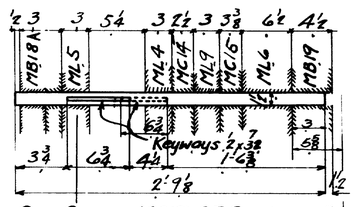
Shaft 1½ Φ x 13'-6¼

Wt 81#




**ONE SHAFT-MS4 - C.R. Steel Req'd #25793 Amb.**

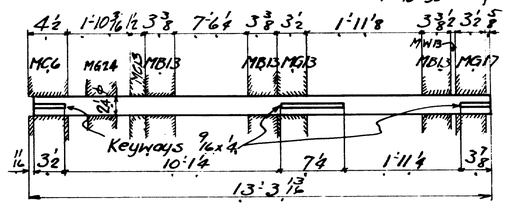
Shaft 2¾ Φ x 3'-9¾ - Wt. 77#




**ONE SHAFT-MS17 - C.R. Steel Req'd #5**

Shaft 1½ Φ x 2'-9⅛

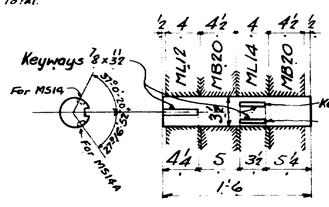
Wt. 17#




**ONE SHAFT MS8 C.R. Steel Req'd #25793 Amb.**

Shaft 2¼ x 13'-3½

Wt. 180#

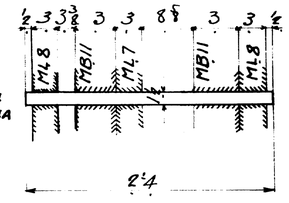



**ONE SHAFT-MS14 Rolled Steel Item 5**

**ONE SHAFT-MS14A Rolled Steel Item 5**

Shafts 3½ Φ x 1'-6 Fin all over

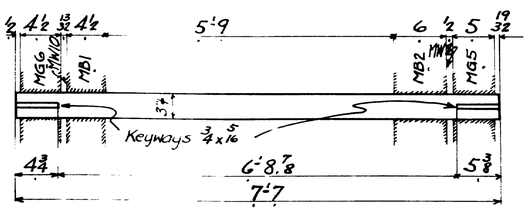
Wt. 49#




**ONE SHAFT-MS15 C.R. Steel Req'd #5**

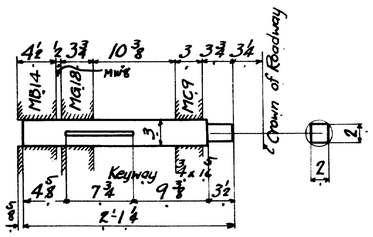
Shaft 1½ Φ x 2'-4

Wt. 14#




**ONE SHAFT-MS3 - C.R. Steel Req'd #25793 Amb.**

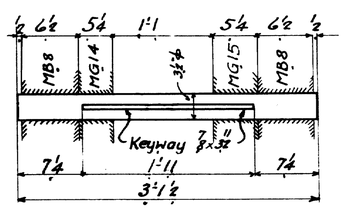
Shaft 3Φ x 7'-7 - Wt. 182#




**ONE SHAFT MS9 C.R. Steel Req 25793 Amb.**

Shaft 3Φ x 2'-1⅛

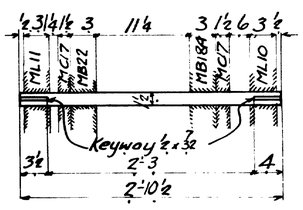
Wt. 50#




**ONE SHAFT-MS10 - Rolled Steel Item 5**

Shaft 3½ Φ x 3'-1½ Fin all Over

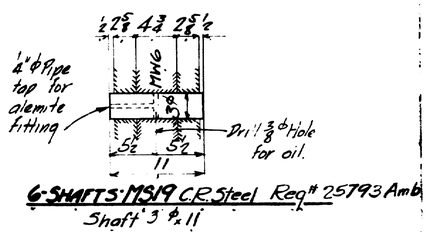
Wt. 102#




**ONE SHAFT MS18 C.R. Steel Req'd #5**

Shaft 1½ Φ x 2'-10½

Wt. 17#




**6 SHAFTS MS19 C.R. Steel Req'd #25793 Amb.**

Shaft 3 Φ x 11

Wt. 22#

Rolled Steel Shafts to be polished at bearings.

# SHAFTING

**J. A. Greenleaf & Sons Co.**
**Maine Highway Comm. Bridge Div.**
**GUT BRIDGE**
Between
**Rutherford Isl. & Mainland So. Bristol**
One Bob - Tail Thru Plate Girder Draw Span.
69' - 11" c. to c. Girders.

**AMERICAN BRIDGE CO.**
**AMBRIDGE PLANT**
Dwgs. made at Ambridge No. 5 in charge of Reehl
Detailed by RC Date 7/1/30 Checked by DLR Date 8/4/30
Fld. conn. dtls. by NKM Date 7/3/30
ORDER NO. 24377M SHEET NO. 22

Rev 7-3-30
Rev. 6-23/30
Rev. 6/26/30

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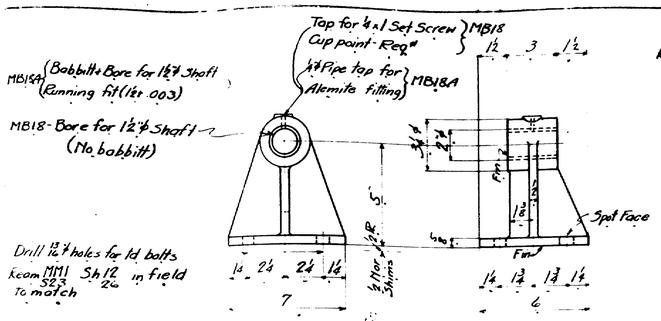
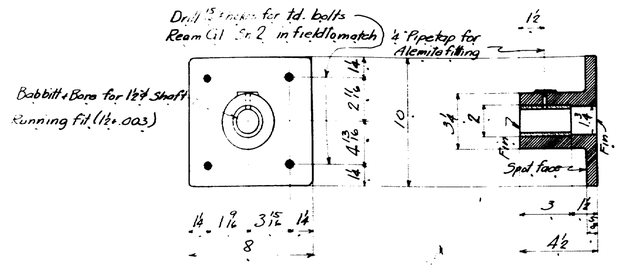
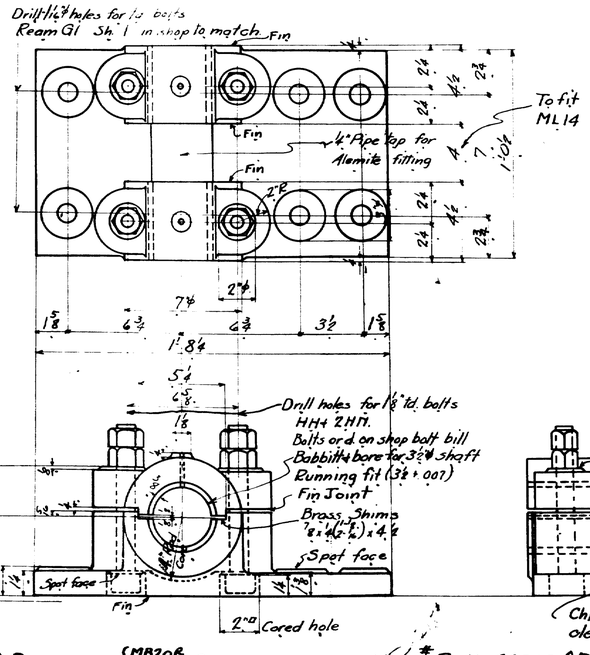
0 1 2 3 4 5 INCHES



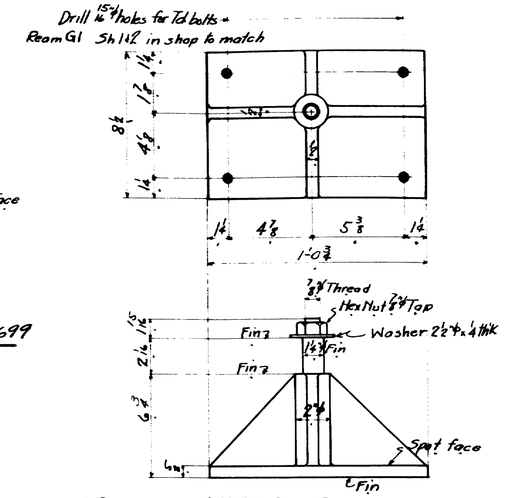

**4-BEARINGS** {MB18A, MB18} CAST STEEL WT. 22# PATT NO AA6091△ REQ CS2699
Annealed

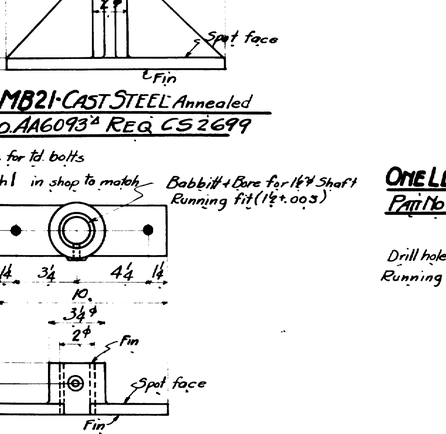


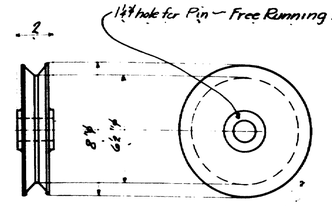

**ONE BEARING MB19** CAST STEEL Annealed WT. 21# PATT NO AA6092△ REQ CS2699

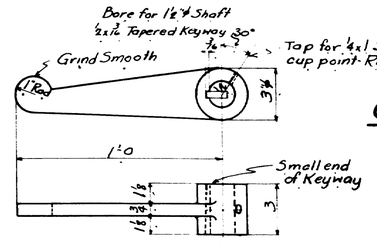


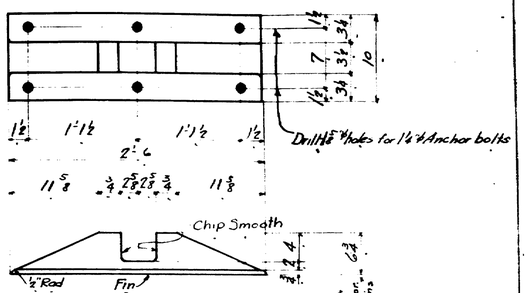

**2-BEARINGS** {MB20R, MB20L} CAST STEEL Annealed WT. 156# PATT NO AA6095△ REQ CS2699
**4-CAPS BC20** CAST STEEL Annealed WT. 33# PATT NO AA6096△ REQ CS2699

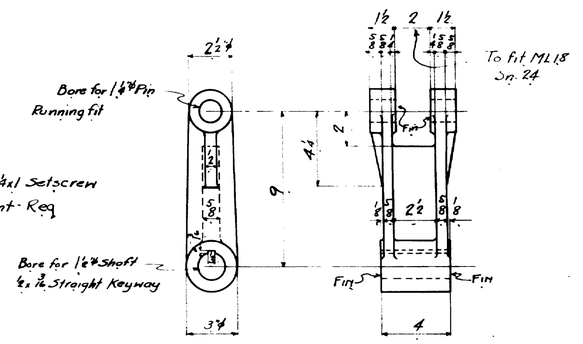


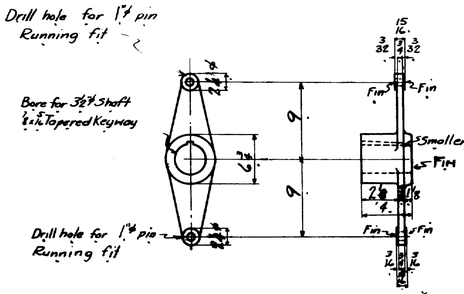



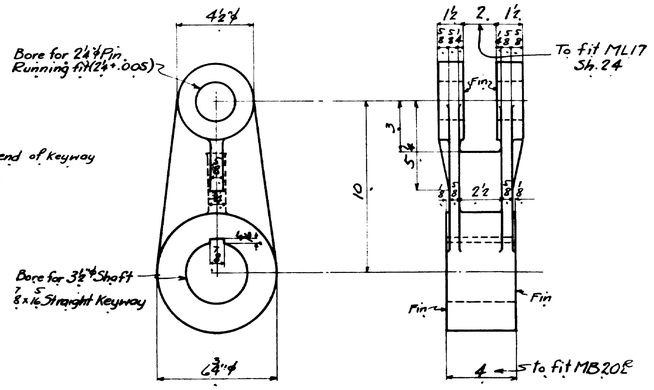




Rev 6-27-30
Rev 6-23-30

## LEVERS & BEARINGS

**J. A. Greenleaf & Sons Co.**
Maine Highway Comm. Bridge Div.
**GUT BRIDGE**
Between
Rutherford Isl. & Mainland So. Bristol
One Bob-Tail Thru Plate Girder Draw Span.
69'-11" c. to c. Girders

**AMERICAN BRIDGE CO.**
AMBRIDGE PLANT
Dwgs. made at Ambridge No. 5 in charge of Reehl
Detailed by WPK Date Checked by LAE Date 6/17/30
Fld. conn. chk. by WKM Date 7/3/30
ORDER NO G3377M SHEET NO. 23

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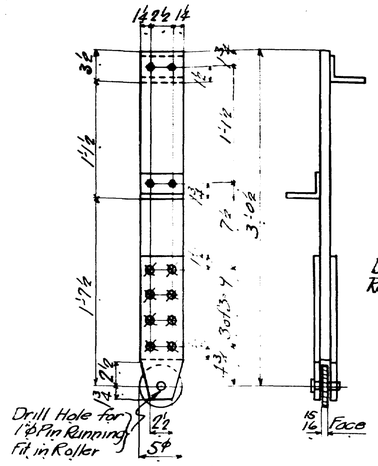
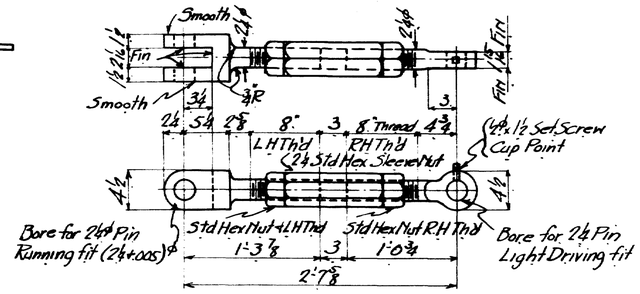
0 1 2 3 4 5 INCHES




## ONE LATCH BAR ML16

1-Bar 5 x 1 x 2'-9¼ Item# S
2-Bars 5 x ⅜ x 1'-5 Item# S
2-Ls 4 x 3 x ½ x 0'-5 Item# S
1-Roller 5Ø x 1⅝ Item# S
1-Pin MP4 —— S
4-P. Bolts ¾Ø x 3 HHMN S
8-Verona Nut Locks for ¾ bolts - S

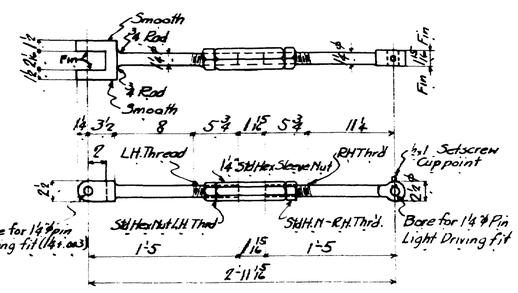
} Wt.




## 2 WEDGE LINKS ML17

2-Forgings 1'-3⅞ lg - L.H. Thd Item S
2 Forgings 1'-0¾ lg - R.H. Thd Item S
2-Std Hex Sleeve Nuts - 2¼Ø Tap x 11½ long - Req# 25833 Amb
2-Std Hex Nuts - 2¼ Tap RH Thd. Req# S
2-Std Hex Nuts 2¼ Tap L.H. Thd Req#. S
2-Set Screws ½Ø x 1½ Cup Point Req# - S

} Wt. 16 One Link

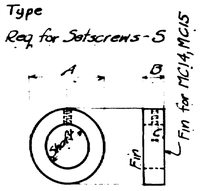



## 2 WEDGE LINKS ML18

2 Forgings 1'-6¼ L.H. Thrd - Item S
2 " 1'-6¼ R.H. Thrd - Item S
2 Std Hex Sleeve Nuts 1¼ Tap x 8 long Req# 25833 Amb
2 " " Nuts 1¼ Tap RH Thrd - Item S
2 " " " 1¼ Tap LH Thrd - Item S
2 Set screws ½x1 Cup Point - Req# - S

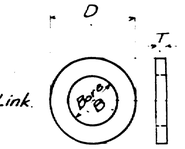
} Wt. One Link.

Cup point Set Screws - Safety Type Req for Setscrews - S




| No Reqd | Mark | Shaft | A | B | C | Req No | Part No | Wt | Mat | Shipped |
|---|---|---|---|---|---|---|---|---|---|---|
| 3 | ML13 | 2¼ | 3½ | 1½ | ½ | S | | 2 | RS | 1 on MS6, 1 on MS7 |
| 5 | ML14 | 1½ | 3¼ | 2½ | ½ | S | | 5 | RS | 4 on MS14, 1 on MS17 |
| 1 | ML15 | 1½ | 3 | 3⅜ | ½ | S | | 5 | RS | on MS17 |
| 1 | ML16 | 2½ | 4 | 1½ | ½ | S | | 3 | RS | On MS5 |
| 2 | ML17 | 1½ | 3 | 1½ | ½ | S | | 2 | RS | On MS18 |

## COLLARS RILLED STEEL ANNEALED

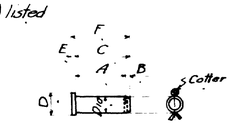



| No Reqd | Mark | Bore B | Dia D | Thick T | Req No | Wt | Shipped |
|---|---|---|---|---|---|---|---|
| 3 | MW8 | 3+3/32 | 5-3/4 | 2 | CB1950 | 3 | Loose |
| 1 | MW9 | 2¾+3/32 | 5-3/4 | 2 | | 3 | Loose |
| 1 | MW10 | 3+3/32 | 5-3/4 | 13/32 | | 2 | Loose |
| 1 | MW11 | 2¼+3/32 | 5 | 2 | | 2 | Loose |
| 1 | MW12 | 2¼+3/32 | 4 | 2 | | 2 | Loose |
| 1 | MW13 | 2¼+3/32 | 4½ | 2 | | 2 | |

## WASHERS - PHOS BRONZE GRADE B - FIN ALL OVER

## ONE OIL SET

Copper Plated
Set Similar to No C30 (5 Piece with round tray) listed in Pittsburgh Gage & Supply Co's Catalogue #12
Req. No. 25836 Amb




| No Reqd | Mark | Dia | A | B | C | D | E | F | Cotter | Shipped | Item |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 4 | MP1 | ¾ | 2½ | ¼ | 2¾ | 1 | ¼ | 3 | ⅛ x 1¼ | ML1-ML2-ML3-ML5 | S |
| 4 | MP2 | 2¼ | 5⅛ | 1/16 | 6⅝ | 2⅝ | ⅜ | 6 | ⅜ x 3¼ | 2 ML17 - 2 ML14 | S |
| 4 | MP3 | 1¼ | 5⅝ | 1/16 | 6⅝ | 1½ | ⅜ | 6 | ¼ x 2 | 2 ML18 - 2 ML21 | S |
| 1 | MP4 | 1 | 2⅝ | ⅝ | 3¼ | 1¼ | ¼ | 3 | ⅛ x 1½ | ML16 | S |
| 6 | MP5 | 1¼ | 3¼ | ⅝ | 4⅜ | 1½ | ⅜ | 4 | ¼ x 2 | 4 SB3 - 2 SB4 | S |

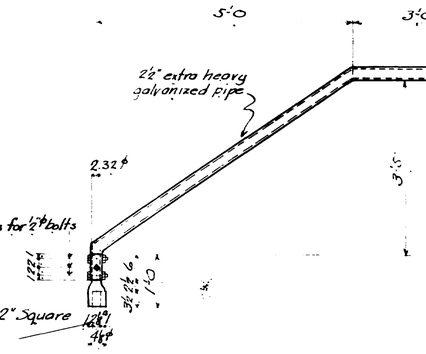
## 1-12" COES KNIFE HANDLE SCREW WRENCH

Pittsburgh Gage & Supply Co
Req. No. 25836 Amb

## STEEL COTTER PINS - REQ#

## ALEMITE FITTINGS

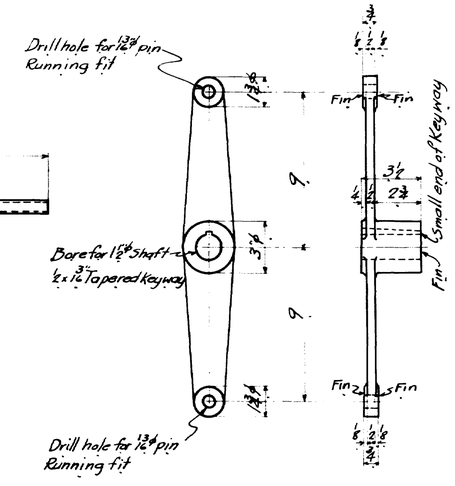
2 Industrial Reservoir fittings 4" pipe thread Type K M2
55 - Industrial Reservoir fittings 4" pipe thread Type R M1
1 Alemite Compressor Type 1080 with industrial check valve hose abt 2'-0" long for Button Head Type fittings.
Ship Boxed Req. No. 25873 Amb
(From Alemite Catalogue dated Aug. 1929)




Annealed WT. 23# REQ# CS 2703

## ONE TURNING LEVER ML19 CAST STEEL PATT No AA6116A

1-Pe. 2½ Extra heavy galvanized pipe 9'-6¾ abt Req# 25834 Amb
3-Bolts ½" Ø x 3½" Req.# S




## ONE LEVER ML13 CAST STEEL ANNEALED

WT. 14# PATT No AA6115A REQ. CS2703

J.H. Williams & Co's Catalogue 18th Edition Pages 10 & 11

| No Reqd | Name | Catalogue No | For U.S. Std. Hex Nut | Remarks |
|---|---|---|---|---|
| 2 | Engineers Wrenches | 18 | 2¼ | Semi finished SH |
| 2 | " " | 44 | 1 1/4 1¼ | " DH |
| 2 | " " | 39 | ¾ + ⅞ | " DH |
| 2 | " " | 34 | ¼ + 5/8 | " DH |

Req. No. 25835 Amb

J.H. Williams & Co's Catalogue 18th Edition Page 21

| No Reqd | Name | Catalogue No. | For Std. Set Screws | Remarks |
|---|---|---|---|---|
| 2 | Set Screw Wrenches | 505 | ½ | Semi finished SH |

Req. No. 25835 Amb

## 2 WRENCHES for ½" safety Type set screws

0 1 2 3 4 5 INCHES

J. A. Greenleaf & Sons Co.
Maine Highway Comm. Bridge Div.
GUT BRIDGE
Between
Rutherford Isl. & Mainland So. Bristol
One Bob-Tail Thru Plate Girder Draw Span.
69'-11" c. to c. Girders.

AMERICAN BRIDGE CO.
AMBRIDGE PLANT
Dwgs. made at Ambridge No. 5 in charge of Reehl
Detailed by WFK Date Checked by LAE Date 4/13/30
Fld. conn. chk. by WKM Date 7/3/30
ORDER NO. G3377" SHEET NO. 24

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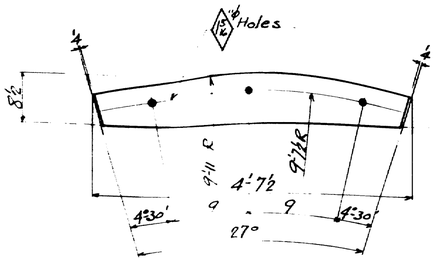
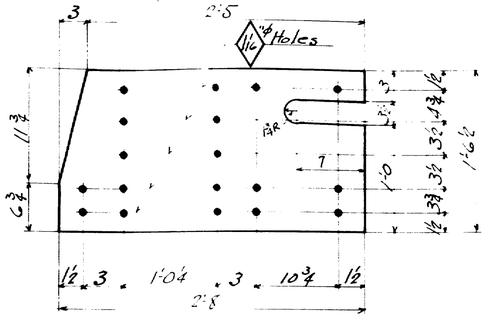
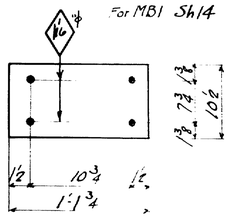
Rev 7-3-30



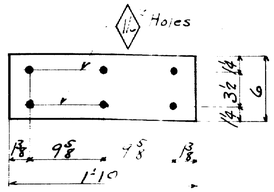

SHIMS SP1-SP2 & SP3
For MG1 MG6 & 8 Sh 13



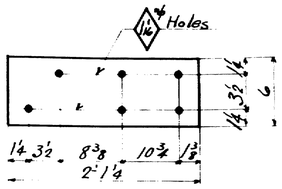

SHIMS SP4 SP5 SP6 & SP7
For MB1 Sh 14



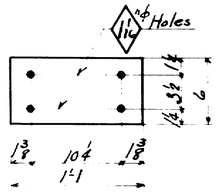

SHIMS SP8 SP9 SP10 & SP11
For MB4 Sh 14



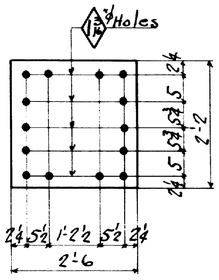

SHIMS SP12 SP13 & SP14
For MB3 Sh 15



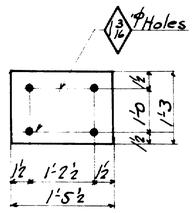

SHIMS SP15 SP16 & SP17
For MB2 Sh 15



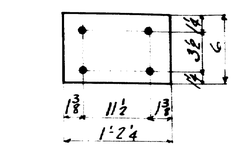

SHIMS SP18 SP19 & SP20
For MB2 Sh 15



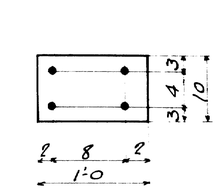

SHIMS SP21 SP22 & SP23
For MC2 Sh 17



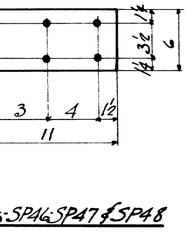

SHIMS SP24 SP25 & SP26
For MB7 Sh 17



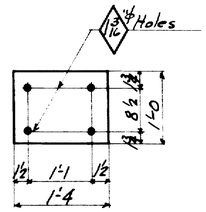

SHIMS SP33 SP34 & SP35
For MB8 Sh 18




SHIMS SP39 SP40 SP41 & SP42
For MW3 Sh 19



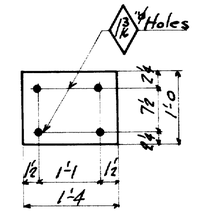

SHIMS SP46 SP47 & SP48
For MB11 Sh 20



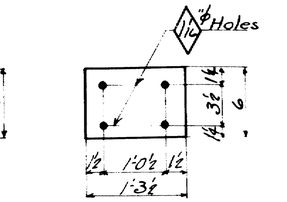

SHIMS SP24 SP25 & SP26
For MB7 Sh 17



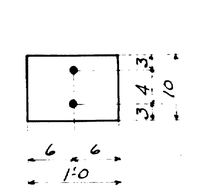

SHIMS SP27 SP28 & SP29
For MB5 Sh 17



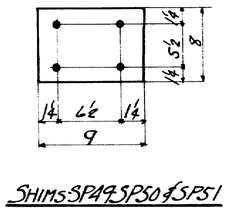

SHIMS SP30 SP31 & SP32
For MB6 Sh 17



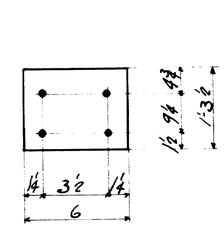

SHIMS SP36 SP37 & SP38
For MB9 Sh 18



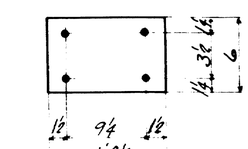

SHIMS SP43 SP44 & SP45
For MW3A Sh 19



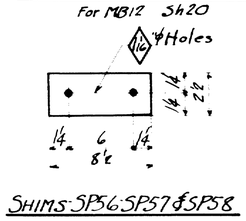

SHIMS SP49 SP50 & SP51
For MB14 Sh 20




SHIMS SP62 SP63 & SP64
For MB10 Sh 20




SHIMS SP52 SP53 SP54 & SP55
For MB12 Sh 20

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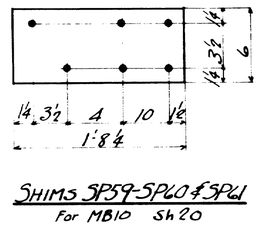
For MB16 Sh 20




SHIMS SP59-SP60 & SP61
For MB10 Sh 20

AMERICAN BRIDGE COMPANY

SHIMS

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 15 | PLs | 5½ | 4 | 4 | 7¼ | SP1 | S | 28 |
| 10 | PLs | 5½ | 5 | 4 | 7¼ | SP2 | S | 14 |
| 5 | PLs | 5½ | 6 | 3 | 7¼ | SP3 | S | 7 |
| 1 | PL | 18½ | 6 | 2 | 8 | SP4 | S | 37 |
| 3 | PLs | 18½ | 4 | 2 | 8 | SP5 | S | 19 |
| 1 | PL | 18½ | 8 | 2 | 8 | SP6 | S | 9 |
| 1 | PL | 18½ | 10 | 2 | 8 | SP7 | S | 4 |
| 1 | PL | 10½ | 6 | 1 | 1¾ | SP8 | S | 21 |
| 3 | PLs | 10½ | 4 | 1 | 1¾ | SP9 | S | 10 |
| 1 | PL | 10½ | 8 | 1 | 1¾ | SP10 | S | 5 |
| 1 | PL | 10½ | 10 | 1 | 1¾ | SP11 | S | 2 |
| 3 | PLs | 8 | 4 | 1 | 10 | SP12 | S | 15 |
| 2 | PLs | 8 | 8 | 1 | 10 | SP13 | S | 10 |
| 1 | PL | 8 | 10 | 1 | 10 | SP14 | S | 5 |
| 3 | PLs | 6 | 4 | 2 | 1¼ | SP15 | S | 30 |
| 2 | PLs | 6 | 8 | 2 | 1¼ | SP16 | S | 20 |
| 1 | PL | 6 | 10 | 2 | 1¼ | SP17 | S | 10 |
| 3 | PLs | 6 | 4 | 1 | 1 | SP18 | S | 45 |
| 2 | PLs | 6 | 8 | 1 | 1 | SP19 | S | 30 |
| 1 | PL | 6 | 10 | 1 | 1 | SP20 | S | 15 |
| 3 | PLs | 26 | 4 | 2 | 6 | SP21 | S | 60 |
| 2 | PLs | 26 | 8 | 2 | 6 | SP22 | S | 40 |
| 1 | PL | 26 | 10 | 2 | 6 | SP23 | S | 20 |
| 6 | PLs | 15 | 4 | 1 | 5¼ | SP24 | S | 90 |
| 4 | PLs | 15 | 8 | 1 | 5¼ | SP25 | S | 60 |
| 2 | PLs | 15 | 10 | 1 | 5¼ | SP26 | S | 30 |
| 6 | PLs | 12 | 4 | 1 | 4 | SP27 | S | 90 |
| 4 | PLs | 12 | 8 | 1 | 4 | SP28 | S | 60 |
| 2 | PLs | 12 | 10 | 1 | 4 | SP29 | S | 30 |
| 6 | PLs | 12 | 4 | 1 | 4 | SP30 | S | 90 |
| 4 | PLs | 12 | 8 | 1 | 4 | SP31 | S | 60 |
| 2 | PLs | 12 | 10 | 1 | 4 | SP32 | S | 30 |
| 6 | PLs | 6 | 4 | 1 | 2¼ | SP33 | S | 90 |
| 4 | PLs | 6 | 8 | 1 | 2¼ | SP34 | S | 60 |
| 2 | PLs | 6 | 10 | 1 | 2¼ | SP35 | S | 30 |
| 6 | PLs | 6 | 4 | 1 | 3½ | SP36 | S | 90 |
| 4 | PLs | 6 | 8 | 1 | 3½ | SP37 | S | 60 |
| 2 | PLs | 6 | 10 | 1 | 3½ | SP38 | S | 30 |
| 2 | PLs | 10 | 2 | 1 | 0 | SP39 | S | 15 |
| 6 | PLs | 10 | 4 | 1 | 0 | SP40 | S | 90 |
| 4 | PLs | 10 | 8 | 1 | 0 | SP41 | S | 60 |
| 2 | PLs | 10 | 10 | 1 | 0 | SP42 | S | 30 |
| 6 | PLs | 10 | 4 | 1 | 0 | SP43 | S | 90 |
| 4 | PLs | 10 | 8 | 1 | 0 | SP44 | S | 60 |
| 2 | PLs | 10 | 10 | 1 | 0 | SP45 | S | 30 |
| 6 | PLs | 6 | 4 | 0 | 11 | SP46 | S | 90 |
| 4 | PLs | 6 | 8 | 0 | 11 | SP47 | S | 60 |
| 2 | PLs | 6 | 10 | 0 | 11 | SP48 | S | 30 |
| 3 | PLs | 8 | 4 | 0 | 9 | SP49 | S | 45 |
| 2 | PLs | 8 | 8 | 0 | 9 | SP50 | S | 30 |
| 1 | PL | 8 | 10 | 0 | 9 | SP51 | S | 15 |
| 1 | PL | 6 | 1 | 1 | 0¼ | SP52 | S | 15 |
| 3 | PLs | 6 | 4 | 1 | 0¼ | SP53 | S | 45 |
| 2 | PLs | 6 | 8 | 1 | 0¼ | SP54 | S | 30 |
| 1 | PL | 6 | 10 | 1 | 0¼ | SP55 | S | 15 |
| 12 | PLs | 22 | 4 | 0 | 8½ | SP56 | S | 180 |
| 8 | PLs | 22 | 8 | 0 | 8½ | SP57 | S | 120 |
| 4 | PLs | 22 | 10 | 0 | 8½ | SP58 | S | 60 |
| 3 | PLs | 6 | 4 | 1 | 8¼ | SP59 | S | 45 |
| 2 | PLs | 6 | 8 | 1 | 8¼ | SP60 | S | 30 |
| 1 | PL | 6 | 10 | 1 | 8¼ | SP61 | S | 15 |
| 3 | PLs | 6 | 4 | 1 | 3½ | SP62 | S | 45 |
| 2 | PLs | 6 | 8 | 1 | 3½ | SP63 | S | 30 |
| 1 | PL | 6 | 10 | 1 | 3½ | SP64 | S | 15 |

NOTES:
MATERIAL: O. H. Steel.
SPECIFICATIONS: Maine State Hwy. Dept.
INSPECTION: PTL.
ERECTION: Others.

RIVETS: dia.
OPEN HOLES: 15/16 dia. Unless Noted

**J. A. Greenleaf & Sons Co.**
Maine Highway Comm. Bridge Div.
**GUT BRIDGE**
Between
Rutherford Isl. & Mainland So. Bristol
One Bob-Tail Thru Plate Girder Draw Span.
69'-11" c. to c. Girders.

**AMERICAN BRIDGE CO.**
**AMBRIDGE PLANT**
Dwgs. made at Ambridge No. 5 in charge of Reehl
Detailed by NFR Date 6/30/30 Checked by HHD Date 6/31/30
Fld. conn. chk. by WKH Date 7/9/30
ORDER NO G3377 SHEET NO. 25

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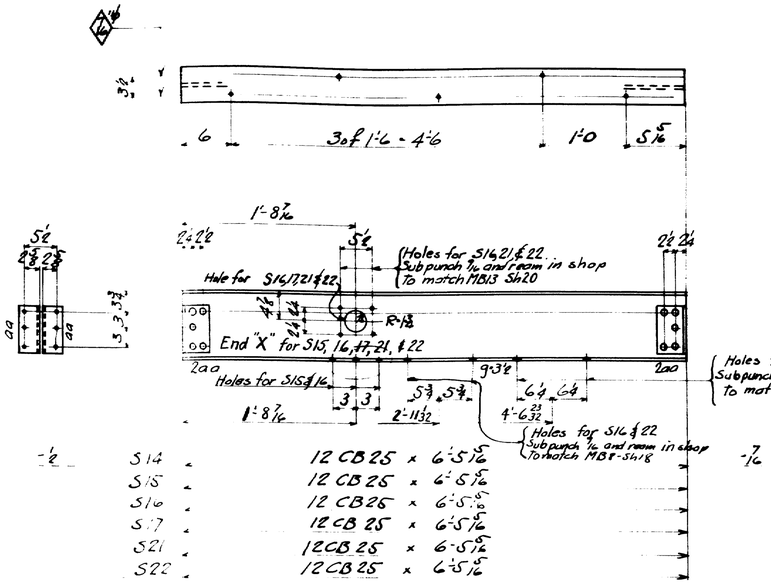
Rev 7-3-30

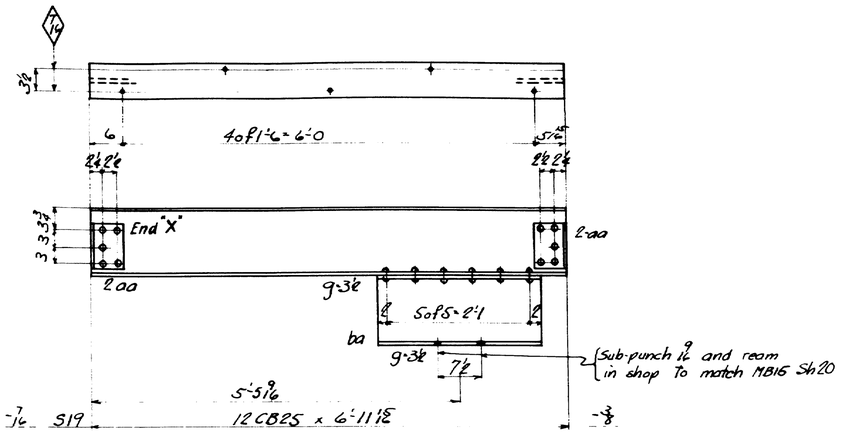
10-29

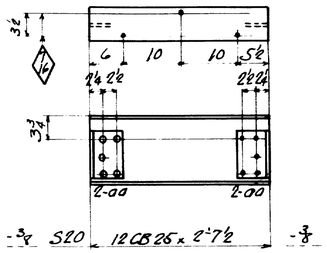
0 1 2 3 4 5 INCHES

AMERICAN BRIDGE COMPANY




| | | |
|---|---|---|
| S14 | 12 CB 25 | x 6'-5 5/16 |
| S15 | 12 CB 25 | x 6'-5 5/16 |
| S16 | 12 CB 25 | x 6'-5 5/16 |
| S17 | 12 CB 25 | x 6'-5 5/16 |
| S21 | 12 CB 25 | x 6'-5 5/16 |
| S22 | 12 CB 25 | x 6'-5 5/16 |




3 STRINGERS S14
ONE " S15
ONE " S16
2 " S17
ONE " S21
ONE " S22

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 9 | 12 CB 25 | 6 5 5/16 | | | | 6'-4 1/4 | 11 |
| 138 | 36 | 6 4 7/16 | 0 9 | aa | | | S |

8 STRINGERS S18
6 " S10
ONE " S11
ONE " S12
ONE " S13

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 8 | 12 CB 25 | 6 11 15/16 | | | For S18 | 6'-11 1/4 | 10 |
| 9 | 12 CB 25 | 7 1/2 | | | For S5,0,11,12&13 | 7'-0 1/2 | 9 |
| 50 | Ls | | | aa | | | |
| 9 | Ls | 6 4 7/16 | 0 9 1/2 | ab' | | | S |
| 2 | Ls | | | ab' | | | S |

ONE STRINGER S19

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | 12 CB 25 | 6 11 15/16 | | | | 6'-11 1/4 | 10 |
| 1 | 12 CB 25 | 2 5 | | ba | | 2'-5 | S |
| 4 | Ls | | | aa | | | |

9 STRINGERS S20

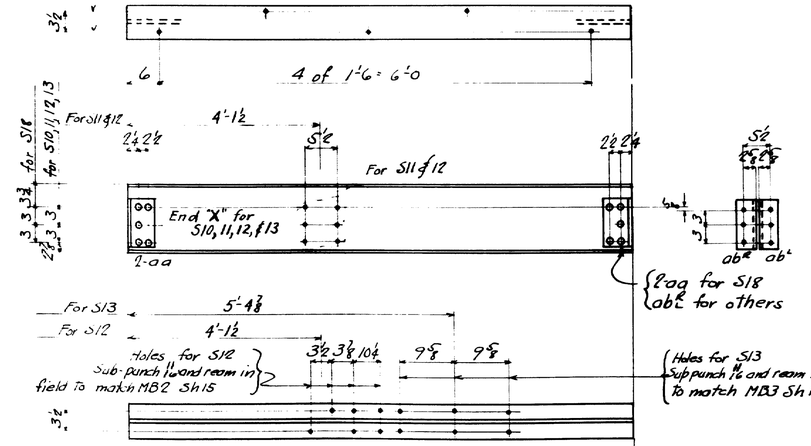
| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 9 | 12 CB 25 | 2 7 1/2 | | | | 2'-6 3/4 | S |
| 36 | Ls | | | aa | | | |
| 18 | T.B 3/4 ϕ | | | | | | S |

2 STRINGERS S24
ONE " S23

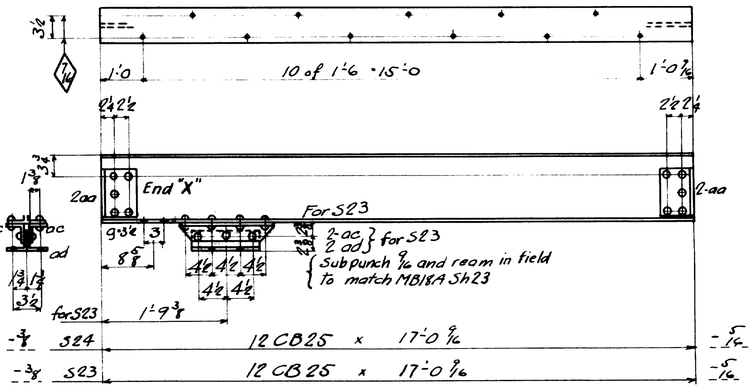
| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 3 | 12 CB 25 | 17 0 7/16 | | | | 16'-11 3/4 | 6 |
| 12 | Ls | | | aa | | | |
| 2 | Ls 3 1/2 3 3/8 | | 1 4 | ac | For S23 | | S |
| 2 | Ls 3 1/2 3 3/8 | | 11 1/2 | ad | For S23 | | S |

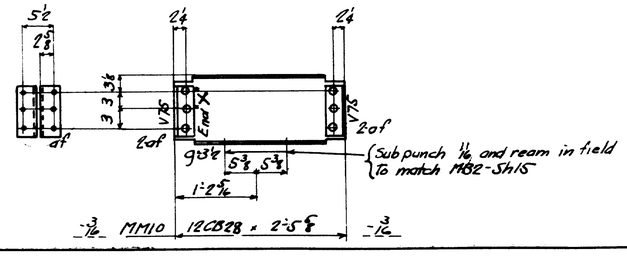
ONE STRUT - MM10

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | 12 CB 28 | 2 5 5/8 | | | | 2'-5 | S |
| 4 | Ls 4 3 1/2 3/8 | | 8 1/2 | at | | | S |




| | | | |
|---|---|---|---|
| S18 | 12 CB 25 | x 6'-11 15/16 | |
| S11 | 12 CB 25 | x 7'-1 1/2 | |
| S12 | 12 CB 25 | x 7'-1 1/2 | |
| S13 | 12 CB 25 | x 7'-1 1/2 | |
| S10 | 12 CB 25 | x 7'-1 1/2 | |




NOTES;
MATERIAL; O. H. Steel.
SPECIFICATIONS; Maine State Hwy. Dept.
INSPECTION; P.T.L.
ERECTION; Others.

RIVETS; 3/4 dia.
OPEN HOLES; 13/16 dia. unless noted.

**J. A. Greenleaf & Sons Co.**
Maine Highway Comm. Bridge Div.
**GUT BRIDGE**
Between
Rutherford Isl. & Mainland So. Bristol
One Bob-Tail Thru Plate Girder Draw Span.
69'-11" c. to c. Girders.

**AMERICAN BRIDGE CO.**
**AMBRIDGE PLANT**
Dwgs. made at Ambridge No. 5 in charge of Reehl
Detailed by MAL Date 6/16/30 Checked by WFR Date 6-18-30
Fld. comm. chk. by WKM Date 7/3/30
ORDER NO G3377S SHEET NO. 26

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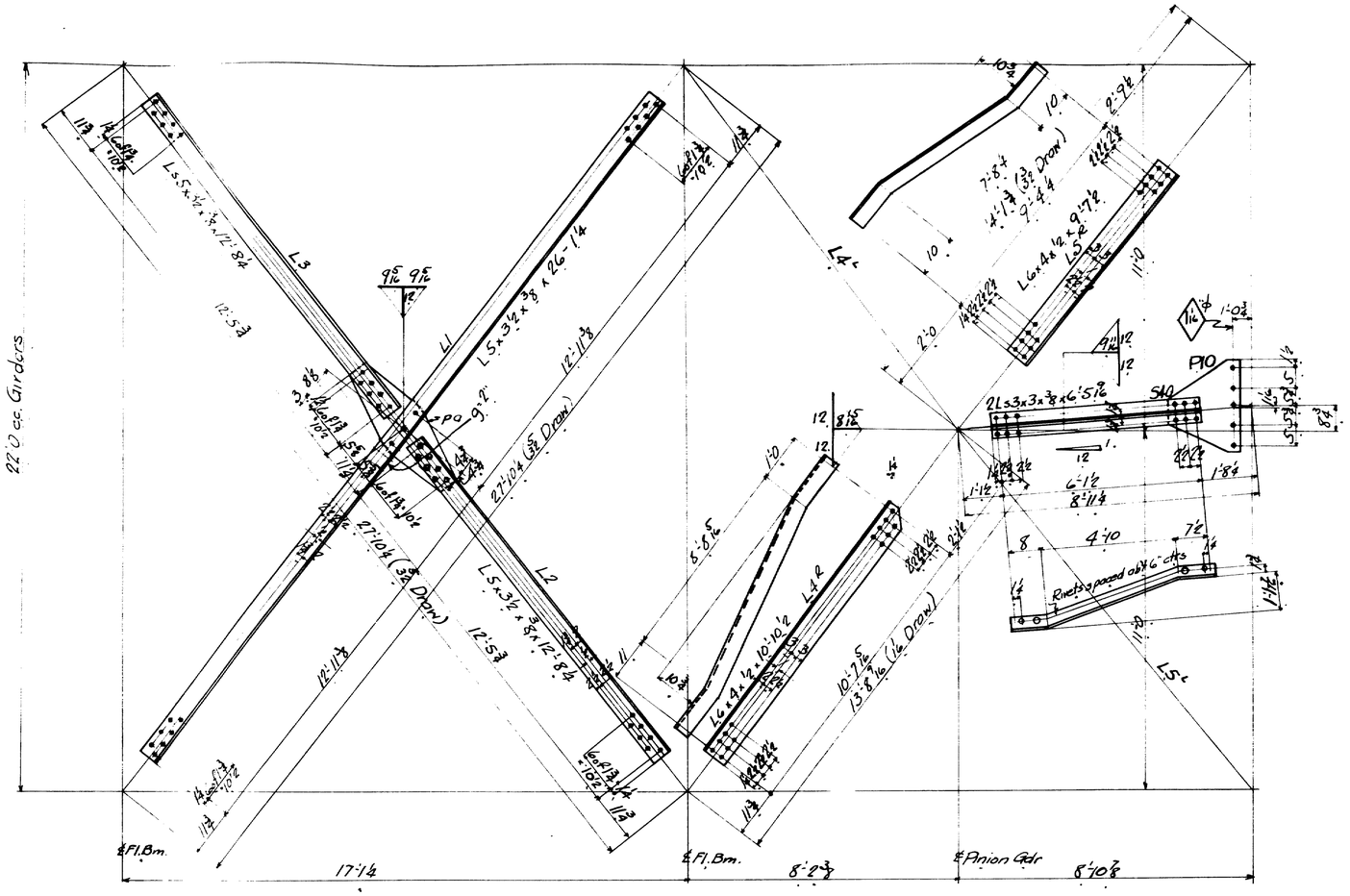
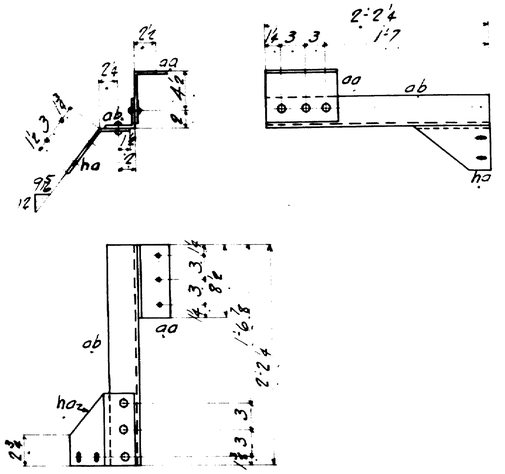
10-30

0 1 2 3 4 5 INCHES




LATERAL SUPPORT L51

## LATERALS

2 LATERALS L1 :
12 2 Ls 5 3½ ⅜ 26 1/4 .26-2 23

2 LATERALS L2 = 16 :
12 2 Ls 5 3½ ⅜ 12 8¼ .25-4½ 24
12 2 Rs 12 ⅜ 2 11¼ S

2 LATERALS L3 :
12 2 Ls 5 3½ ⅜ 12 8¼ 3 . 25-9½ 24

2 LATERALS L4 R ℄ L4 L :
12 2 Ls 6 4 ½ 10 10½ Bent 2, 174.22-1 18

2 LATERALS L5 R ℄ L5 L :
12 2 Ls 6 4 ½ 9 7½ Bent 1 155. S

ONE STRUT S40 = 96.
12 2 Ls 3 3 ⅜ 6 5⅞ 93± S

ONE LATERAL RATE P10.
19.7 1 R 8 4 ⅜ 2 0 2 28. S

2 LATERAL SUPPORTS L51 = 37.
12 2 Ls 6 4 ⅜ 0 8¼ aa 9 S
11.2 2 Ls 3½ 3½ ⅜ 2 2¼ ab 13 S
11.2 2 Rs 8¼ ⅜ 0 10 ha 9 S

Notes:
Material : Ott. Steel
Specifications : Maine State Hwy. Dept.
Inspt. P. T. L.
Erection - Others

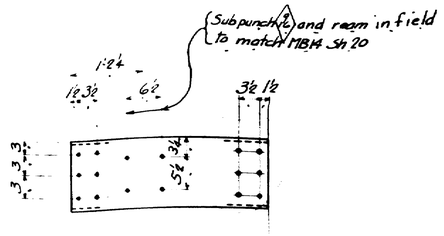
Rivets ¾"ϕ
Open Holes 13/16ϕ unless noted

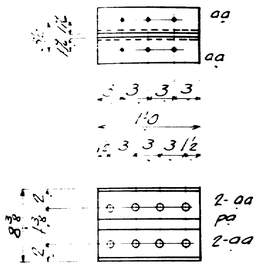
J. A. Greenleaf & Sons Co
Maine Highway Comm. Bridge Div.
GUT BRIDGE
Between
Rutherford Isl. & Mainland So. Bristol
One Bob Tail Thru Plate Gdr. Draw Span
69'-11" c.to c. Girders

AMERICAN BRIDGE CO.
MIDDLEBRIDGE PLANT
Dwg. made at Aforesaid Plant No. 5 in charge of Roehl
Detailed by MFR Checked by [illegible] Date 6/25/30
Fld. comm. dist. by WKH Date 7/3/30
ORDER NO G33779 SHEET No. 27

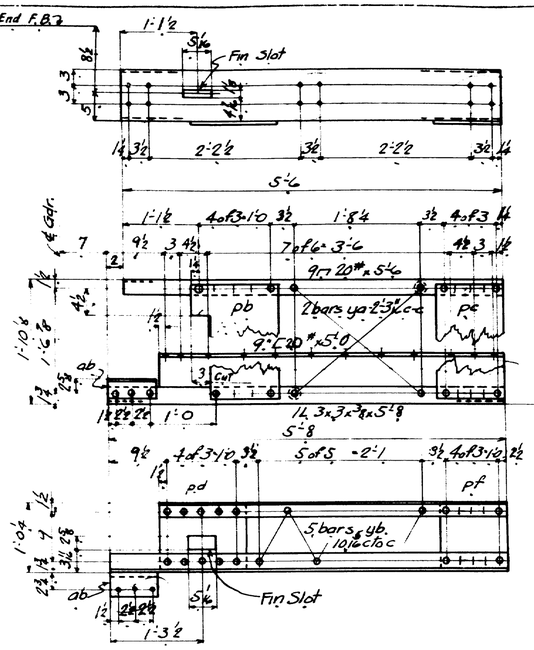
10-31

0 1 2 3 4 5 INCHES

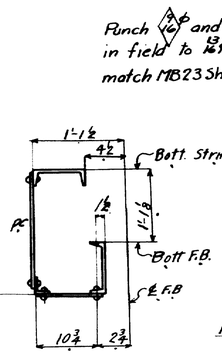


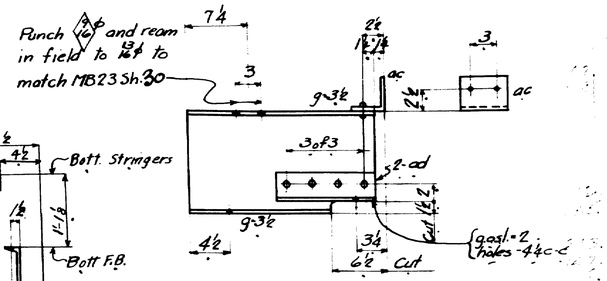




B25

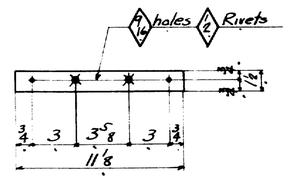



MM12



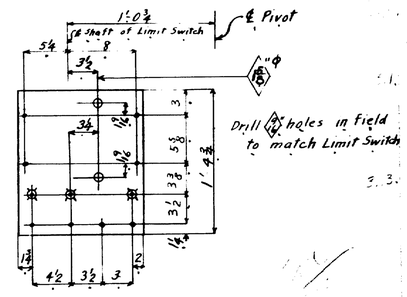




MM9 12 CB25 x 1'-11 -¼

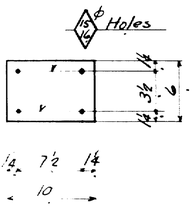



SP83

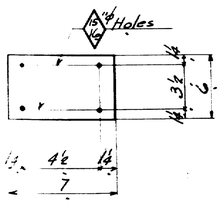
(Shims for Swing Limit Switch)



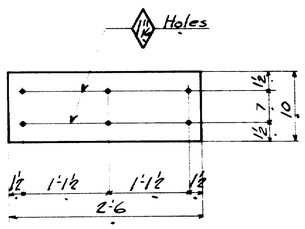

P8.



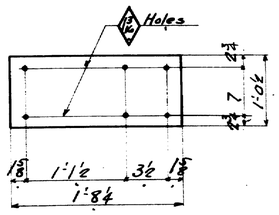

SHIMS SP65, SP66 & SP67
For MB15 Sh 20



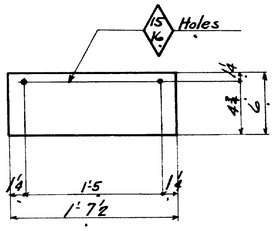

SHIMS - SP68, SP69 & SP70
For MB18A Sh 23



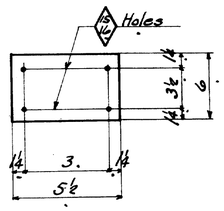

SHIMS - SP71, SP72 & SP73
For ML15 Sh 23




SHIMS - SP74, SP75 & SP76
For MB20L Sh 23




SHIMS - SP77, SP78 & SP79
For MR1, Sh 29




SHIMS - SP80, SP81 & SP82.
For MB23- Sh 30

ONE STRUT - MM11
1 12 L 20.7 3'-0½ 3-0½ S

2 - PIECES B25 - A3
2 PL ⅜ 8-3½ 1.0. po S
8 Ls 3½ 3½ ⅜ 1 0 qo S

ONE STRUT MM12
1. L 9 @ 20# 5'-6 5'-6 S
1. L 9 @ 20# 5'-0 5'-0 S
1. L 3 3 ⅜ 5'-8 S
1. PL 14½ ⅜ 1. 9½ pb S
1. PL 14½ ⅜ 1. 9½ pc S
1. PL 11½ ⅜ 1. 2½ pd S
1. PL 11½ ⅜ 1. 2½ pf S
1. L 4 4 ⅜ 8. ab S
2 bars 2¾ 2'-3" ya c-c S
5 bars 2¾ 10½ yb c-c S
2 Washers ¼" x 1½ - 1⅛ hole S
1 " ¼" x 1½ - 1⅛ hole. S

ONE STRUT MM9
1. 12 CB25 11 1-9¾ S
1 L 4 4 ⅜ 5'-2 ac S
2 Ls 3½ 3½ ⅜ 11½ ad S

SHIMS

| | | | | |
|---|---|---|---|---|
| 3 PS | 6. | 4. | 0.10 | SP65 S |
| 2 PS | 6. | 6 | 0.10 | SP66 S |
| 1 PS | 6. | 1/6 | 0.10 | SP67 S |
| 6 PS | 6. | 4. | 0.7 | SP68 S |
| 4 PS | 6. | 6. | 0.7 | SP69 S |
| 2 PS | 6. | 1/6 | 0.7 | SP70 S |
| 3 PS | 10. | 4. | 2.6 | SP71 S |
| 2 PS | 10. | ⅛ | 2.6 | SP72 S |
| 1 PS | 10. | 1/6 | 2.6 | SP73 S |
| 6 PS | 12½ | 4. | 1.8¼ | SP74 S |
| 4 PS | 12½ | ⅛ | 1.8¼ | SP75 S |
| 2 PS | 12½ | 1/6 | 1.8¼ | SP76 S |
| 6 PS | 6 | 4. | 1.7½ | SP77 S |
| 4 PS | 6 | ⅛ | 1.7½ | SP78 S |
| 2 PS | 6. | 1/6 | 1.7½ | SP79 S |
| 3 PS | 6. | 4. | 5½ | SP80 S |
| 2 PS | 6. | ⅛ | 5½ | SP81 S |
| 1 PS | 6. | 1/6 | 5½ | SP82 S |

2 - PIECES SP83
4 PS ½ 1. 11⅛ S

ONE - PLATE - P8.
1 PL 14½ ⅝ 1.4¾ S

NOTES;
MATERIAL; O.H. Steel.
SPECIFICATION: Maine State Hwy Dept.
INSPECTION:
ERECTION: Others.
RIVETS; ¾ dia. Unless Noted
OPEN HOLES; ⅞ dia. Unless Noted

J. A. Greenleaf & Sons Co.
Maine Highway Comm. Bridge Div.
GUT BRIDGE
Between
Rutherford Isl. & Mainland So. Bristol.
One Bob-Tail Thru Plate Girder Draw Span
69'-11 a.to.o. Girders

AMERICAN BRIDGE CO.
AMBRIDGE PLANT
Dwgs. made at Ambridge No. 5 in charge of Roehl
Detailed by [illegible] Date 6/[illegible] Checked by L.H.E. Date 6/[illegible]/30
Fld. conn. chk. by W.R.H. Date 7/3/30
ORDER NO. G 33775 SHEET NO 28

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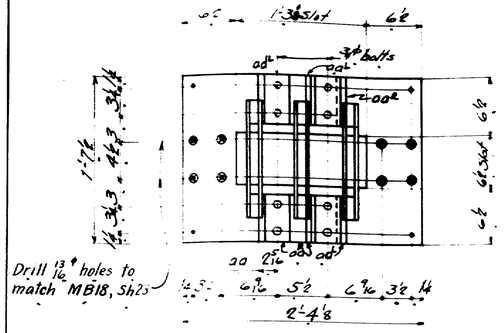
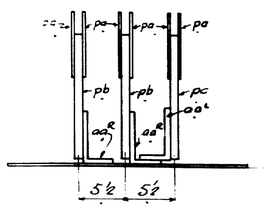
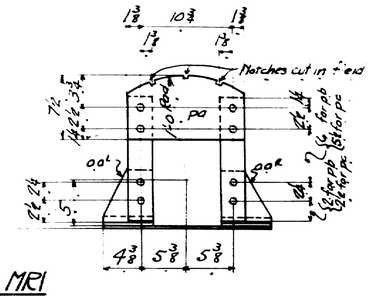
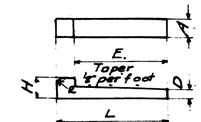
0 1 2 3 4 5 INCHES




## RATCHET MR1

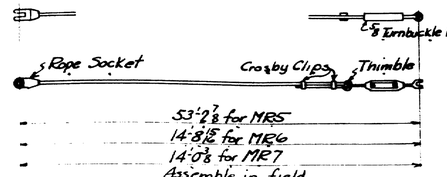



## GIB HEAD KEY

### ONE RATCHET MR1

| | | | | |
|---|---|---|---|---|
| 1 Pc. | 19½ | 2. | 4⅜ | S |
| 6 Pcs. | 7½ | 1. | 1½ pa. | S |
| 4 Pcs. | 2¾ | 1. | 2 pb. | S |
| 2 Pcs. | 3⅜ | 1. | 2. pc | S |
| 6 Lgs. | 6 3½ | 0 | 5½ aa 3½ | S |

16 Bolts ¾" Ø x 2½" long
4" Hvd. hex. hd. & Nut.

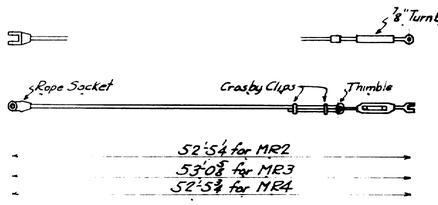



ONE WIRE ROPE MR5 - Wt. 18#
ONE WIRE ROPE MR6 - Wt. 9#
ONE WIRE ROPE MR7 - Wt. 9#

All Material ordered from A.S.&W.Co. Req No. 25874 Amb

| | | | | |
|---|---|---|---|---|
| 1 Pc. Std. | Plow | Steel Hoisting Rope | ¾" x 54'-6" | 6 Strands 19 wires |
| 1 " " | " | " " " | ⅝" x 16'-0" | |
| 1 " " | " | " " " | ⅝" x 15'-2" | |

3-¾" Tiger Brand open wire rope sockets with pins (in place on above ropes)
3-⅝" Turnbuckle A.S.&W.Co. Trade No 229
6-⅝" Galv. Crosby wire rope clips — S
3-⅝" Galv. Thimbles Regular — Req# 25875 Amb




2-WIRE ROPES MR2 - Wt. 34# each
ONE WIRE ROPE MR3 - Wt. 34#
ONE WIRE ROPE MR4 - Wt. 34#
Assemble in field

All Material ordered from A.S.&W.Co. Req No. 25874 Amb

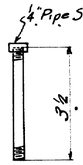
| | | | | |
|---|---|---|---|---|
| 2 Pcs | Std. | Plow | Steel Hoisting Rope | ⅝" x 54'-0" | 6 Strands 19 Wires |
| 1 Pc. | " | " | " " " | ½" x 54'-6" | |
| 1 Pc. | " | " | " " " | ⅝" x 54'-0" | |

4-⅝" Tiger Brand open wire rope sockets with pins (in place on above ropes)
4-⅝" Turnbuckles A.S.&W.Co. Trade No 229
8-⅝" Galv. Crosby wire rope clips — S
4-⅝" Galv. Thimbles Regular — Req# 25875 Amb.

## SPEED REDUCER Req No 25791 Amb - Wt. 685#

1-Medium Duty-Horizontal Type-D.O. James Worm Gear Speed Reducer Size 151-Ratio 29.00-Worm at Bottom.-13" ctrs.

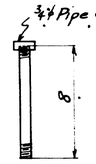
Note to Shop: Cut 1¾" from end of worm shaft making same 1'-5⅞" long from ℄ worm wheel.




## 2-OIL PIPES OP1

For MB1 Sh14

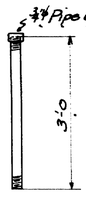
2-pc ¾" Pipe x 0'-3½" } Req'd S
2-¼" Pipe Sleeve } Wt. ½# total




## ONE OIL PIPE OP2

For MC1 Sh17

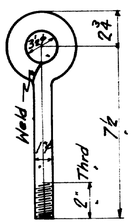
1 pc. ¾" pipe x 0'-8" } Req'd S
1-¾" Pipe cap } Wt. 1#




## ONE OIL PIPE OP3

For MC2 Sh17

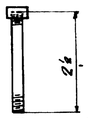
One Pc. ¾" Pipe x 3'-0" } Req'd S
One ¾" Pipe Cap } Wt. 3½#




## 2 DISC LIFTERS ML20

Steel Forging

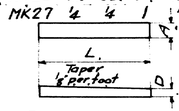
1 Pc. 1"+ x 1'-7½" obt. Item S.
Wt. 4½# each.




## 2 OIL PIPES — OP4

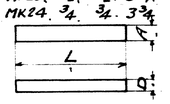
For MB12 - Sh 20

2 Pcs ¾ pipe x 2½" } Req'd S
2 Pcs ¾ pipe cap } Wt. ½# total




## PLAIN KEY

| Location | Total Wt | No Req'd | Mark | A | D | L | How Shipped |
|---|---|---|---|---|---|---|---|
| 2 MG4 to MS3 | | 2. | MK3 | ¾ | 19/32 | 4⅝ | 1 in MG6 |
| 2 MG4 to MS2 | | | | | | | 1 in MG4 |
| 2 MG5 to MS3 | | 2. | MK4 | ¾ | 19/32 | 5⅛ | 1 in MG5 |
| 1 MG5 to MS2 | | | | | | | |
| 1 MG4 to MS4 | | 2. | MK5 | ⅝ | 17/32 | 4¼ | 1 in MS4 |
| ½ MG10 to MS5 | | 1. | MK6 | ⅝ | 17/32 | 3⅛ | 1 in MG10 |
| ½ SP2 to MS7 | | 1. | MK10 | 7/16 | 15/32 | 3½ | 1 in SP2 |
| 1 MG13 to MS8 | | 2. | MK12 | 7/16 | 15/32 | 3¾ | 1 in MG17 |
| 1 MG13 to MS8 | | | | | | | 1 in MG13 |
| 1 MG18 to MS9 | | 1. | MK13 | ¾ | 19/32 | 3⅞ | 1 in MG18 |
| 2 MG9 to MS10 | | 2. | MK14 | ⅞ | 21/32 | 5½ | 1 in MS10 |
| 4 ML12 to MS11, 19 & MS14A | | 4. | MK15 | ⅞ | 21/32 | 4¼ | 1 in ML12 |
| 2 MG16 to MS11 | | 1. | MK16 | 1 | 23/32 | 6⅞ | 1 in MG16 |
| ½ ML13 to MS12 | | 1. | MK19 | ½ | 13/32 | 3⅝ | 1 in ML13 |
| ½ MC8 to MS13 | | 1. | MK20 | ½ | 13/32 | 2⅞ | 1 in MC8 |
| 1 ML21 to MS17 | | 4. | MK22 | ½ | 13/32 | 3⅜ | 1 in PR.S. 1 in ML10 1 in ML4. 1 in ML11 |
| ML10 ML11 to MS18 | | | | | | | |
| ½ SP3 to Limit Switch | | 2. | MK25 | ¼ | ¼ | 1½ | 1 in SP3: 1 in SP4 |
| ½ SP4 to MS20 | | | | | | | |
| 1 MG25 to MS20 | | | | | | | 1 in MG25: 1 in MG20 |
| ½ MG20/21 to MS21 | | 3. | MK26 | 5/16 | 9/32 | 1 | 1 in MG21 |
| ½ MG23 to Limit Switch | | 1 | MK27 | ¼ | ¼ | 1 | ½ 1½ ¼ in MG23 |




## STRAIGHT KEY

| Location | Total WT | No Req'd | Mark | A | D | L | How Shipped |
|---|---|---|---|---|---|---|---|
| MG2 to MS1 | 1 | 1. | MK1. | ⅛ | 6/32 | 4¾ | On MS1 |
| MG12 to MS6 | ½ | 1. | MK8. | 7/16 | 15/32 | 3. | In MG12 |
| ML16 to MS15, MS13 | ½ | 2. | MK17 | ½ | 17/32 | 3½ | In ML21 |
| ML14 to MS14, MS14A | 1 | 2 | MK21 | ⅞ | 21/32 | 3½ | In ML14 |

NOTES:
MATERIAL: O. H. Steel.
SPECIFICATIONS: Maine State Hwy. Dept.
INSPECTION: P.T.L.
ERECTION: Others.

RIVETS: ¾ dia.
OPEN HOLES: 15/16 dia.

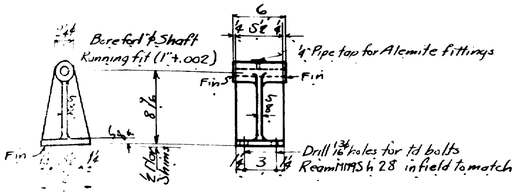
J. A. Greenleaf & Sons Co.
Maine Highway Comm. Bridge Div.
**GUT BRIDGE**
Between
Rutherford Isl. & Mainland So. Bristol
One Bob-Tail Thru Plate Girder Draw Span.
69'-11" c. to c. Girders.

**AMERICAN BRIDGE CO.**
AMBRIDGE PLANT
Dwgs. made at Ambridge No. 5 in charge of Reehl
Detailed by WFR Date Checked by JE Date 6-24-30
Fld. conn. chk. by WKM Date 7/1/30
ORDER NO G3377 SHEET NO. 29

COPYRIGHT AMERICAN BRIDGE COMPANY 1930.

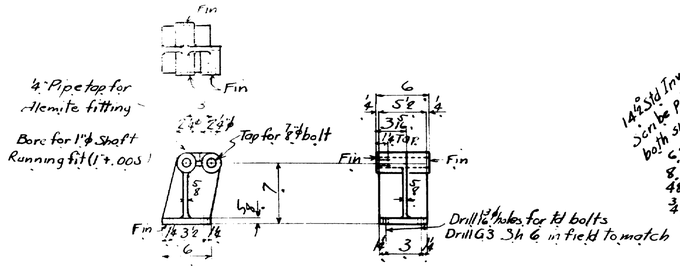
0 1 2 3 4 5 INCHES

10-33

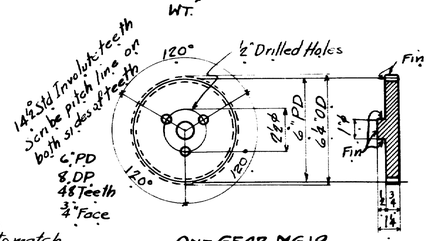



ONE BEARING MB23 CAST IRON WT. 22# PAT'D NO AA6119Δ REQ CI1955

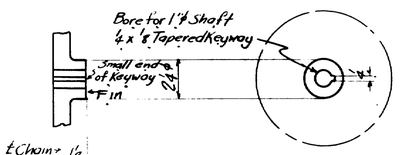
ONE LINK BELT SILENT CHAIN
½" Pitch 1" Face
Length of chain 99.596
Ord. from Link Belt Co.
Req 25804 Amb.
WT.



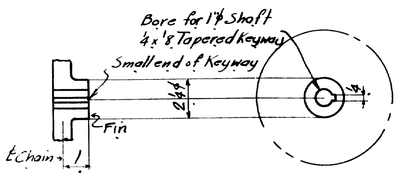

ONE BEARING MB24 CAST IRON WT 26# PAT'D NO. AA6120Δ REQ CI1955



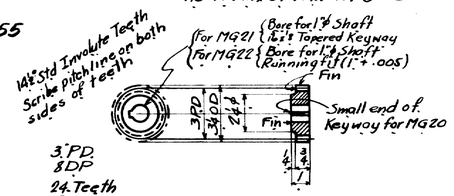

ONE GEAR MG19
1 Pr. 14" Fin x 6½"ϕ Fin WT. 5# S



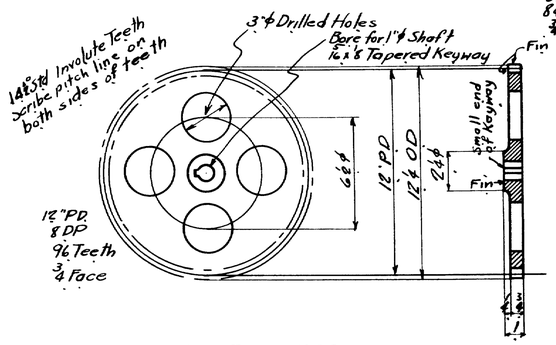

DRIVEN
ONE SPROCKET SP3 50 Teeth 8.021 PD
for ½" Pitch Chain 1" Wide
Ord. from Link Belt Co.
Req# 25804 Amb.
WT.



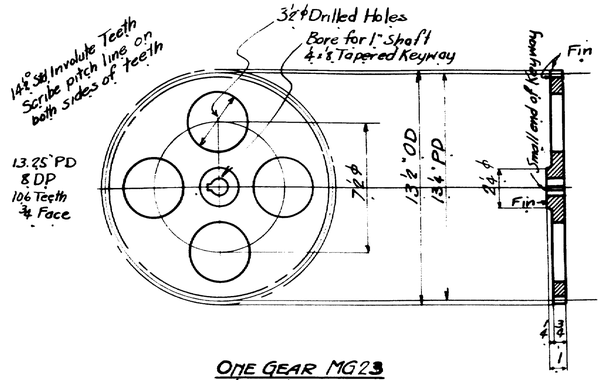

DRIVER
ONE SPROCKET SP4 25 Teeth 4.021 PD
for ½" Pitch chain 1" wide
Ord. from Link Belt Co.
Req #25804 Amb.
WT



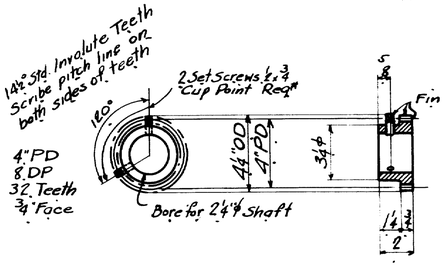

ONE GEAR MG21
ONE GEAR MG22
2 Pcs 1" Fin x 3¼"ϕ fin - WT. 3# S



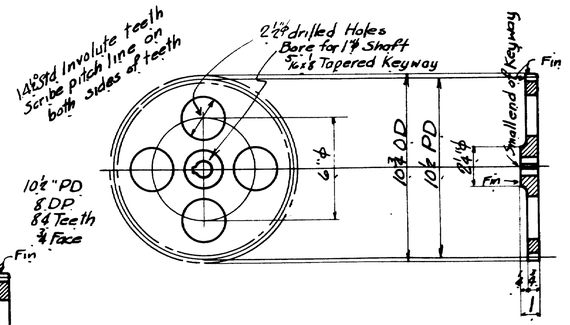

ONE GEAR MG20
One Pr 1" Fin x 12½"ϕ Fin S
Wt 18.#



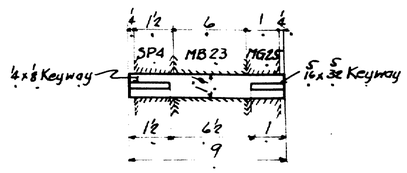

ONE GEAR MG23
1 Pr. 1" Fin x 13½"ϕ Fin S
Wt 20#



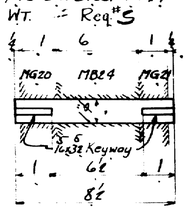

ONE GEAR MG24
1 Pr 2" Fin x 4½"ϕ Fin S.
Wt 2#




ONE GEAR MG25
1 Pr 1" Fin x 10¾"ϕ Fin S
WT. 14#




ONE SHAFT MS20
1 Pr. C.R. Steel 1"ϕ x 9"
WT. Req# S

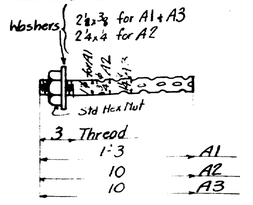



ONE SHAFT MS21
1-Pr. C.R. Steel 1"ϕ x 8½
WT. Req# S




J. A. Greenleaf & Sons Co.
Maine Highway Comm. Bridge Div.
GUT BRIDGE
Between
Rutherford Isl. & Mainland So. Bristol
One Bob-Tail Thru Plate Girder Draw Span
69'-11" o. to o. Girders.

AMERICAN BRIDGE CO
AMBRIDGE PLANT
Dwgs. made at Ambridge #5 in charge of Roehl
Detailed by WFK Date Ck'd by LAE Date 6-24-30.
Fld. conn chk WKM Date 7/2/30
ORDER NO G3377M Sh. No. 30




| No Reqd | Mark | Dia. | Lgth. | Washers | Nuts Each | WT |
|---|---|---|---|---|---|---|
| 72 | A1 | 1 | 1'-3 | 1¼ ⊙ 2½ x 3/8 | 1 | |
| 12 | A2 | ¾ | 0'-10 | 1⅜ ⊙ 2½ x 4 | 1 | |
| 6 | A3 | 1¼ | 0'-10 | 1½ ⊙ 2½ x 3/8 | 1 | |

SWEDGED ANCHOR BOLTS A1, A2 & A3
(Sub. Div. 5)

## SHOP BOLTS (SUB DIV. M)

| | STYLE BOLT | No REQ'D | DIA. OF HOLE | DIA. OF BOLT | DIA. OF THREAD | S | T | L | NO. OF NUTS EACH | WASHERS | REMARKS | WT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| STUD BOLTS | B | 4 | | ¾ | | 2½ | 1½ | 7¾ | 3 | 1-V | BC3 to MB3 | |
| Verona Nut Lock | | 12 | | ¾ | | | 2½ | 6¾ | 2 | | BC1A to {MB1 MB4} | |
| Dia | | 8 | | ¾ | | | 2½ | 6½ | 2 | | BC2 to {MB2 MB3} | |
| S T | | 4 | | ¾ | | | 2½ | 6½ | 2 | | BC3 to MA10 | |
| L | | 2 | | 1¼ | | | 2 | 3¾ | 1 | | MC5 to MC5 | |
| TYPE B | C | 8 | | ¾ | | | 1¼ | 3 | 1 | | MC5 to MC1 | |
| | | 4 | | ⅝ | | | 1½ | 4½ | 1 | 1-V | MC18 to MC18 | |
| Turned Bolts | | 8 | | ¾ | | | 1½ | 5½ | 1 | 1-V | BC11 to MB11 | |
| Dia | | 8 | | ¾ | | | 1¼ | 2 | 1 | | ML8 | |
| T L | | | | | | | | | | | | |
| TYPE C Hex Hd. TYPE D - Sq. Hd. | | 8 | | ⅞ | | | 2½ | 10¾ | 2 | | BC1 to MB1 | |
| | | 8 | | ¾ | | | 2 | 7¼ | 2 | | BC8 to MB8 | |
| Turned Brass Top Bolt | | 8 | | ⅞ | | | 2½ | 8 | 2 | | BC9 to MB9 | |
| | C1 | 8 | | 1⅛ | | | 3 | 8¾ | 2 | | BC20 to MB20 | |
| Head Body 1/4 1/8 2 1/16 | | | | | | | | | | | | |
| TYPE D | | 1 | | 1 | ⅞ | (As Detailed) | | | | | for MB24 BRASS | |
| | D | | | | | | | | | | | |

## FIELD BOLTS (SUB DIV. 5)

| | STYLE BOLT | No REQ'D | DIA. HOLE | DIA BOLT | MAX. GRIP | MIN. GRIP | S | T | L | No WASHERS | STYLE OF WASHERS | LOCATION | WT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Shouldered Turned Bolt | A | 8 | 15/16 | | 3½ | 2 | 2⅛ | 2⅞ | 5¾ | 4 | X | MB1 to G3 | |
| Dia for reamed Hole | A | 2 | 15/16 | | 3⅜ | 2⅜ | 3¼ | 3 | 6¼ | 4 | X | (do) | |
| S T | A | 1 | 15/16 | | 2⅞ | 1⅜ | 2¼ | 3 | 5¼ | 4 | X | (do) | |
| L | A | 1 | 15/16 | | 3¼ | 1¾ | 2⅝ | 2⅛ | 5½ | 4 | X | (do) | |
| TYPE-A | A | 6 | 15/16 | | 3⅝ | 2⅛ | 3 | 3 | 6 | 4 | X | (do) | |
| | A | 4 | 15/16 | | 3⅜ | 2⅜ | 3¼ | 3 | 6¼ | 4 | X | MB4 to G3 | |
| Shouldered Turned Bolt | A | 10 | 15/16 | | 2⅜ | 1⅜ | 2 | 2¾ | 4¾ | 3 | X | MB2 to S12 & MM10 | |
| Dia for reamed Hole | A | 6 | 15/16 | | 2⅜ | 1⅜ | 2 | 2¾ | 4¾ | 3 | X | MB3 to S13 | |
| S T | A | 9 | 1 1/16 | | 4 1/16 | 3 15/16 | 4½ | 3 | 7½ | 3 | X | MC2 to CG1 | |
| L | A | 5 | 1 1/16 | | 5 5/16 | 4 5/16 | 4⅞ | 2⅞ | 7¾ | 3 | X | MC2 to CG1 to P10 | |
| TYPE-B | A | 2 | 1 1/16 | | 3 1/16 | 2 1/16 | 3⅜ | 3⅜ | 6¼ | 3 | X | MB7 to CG1 | |
| | A | 2 | 1 1/16 | | 4 3/16 | 3 3/16 | 3¾ | 3 | 6¾ | 3 | X | (do) | |
| Csk. Hd. Bolt | A | 8 | 1 1/16 | | 2¾ | 1¾ | 2⅜ | 2⅞ | 5¼ | 3 | X | MB5 R to G3 | |
| Dia | A | 8 | 1 1/16 | | 3 1/16 | 2 1/16 | 3 | 3 | 6 | 3 | X | MB6 R to F4 | |
| T | A | 8 | 13/16 | | 2⅝ | 1⅝ | 2¼ | 2½ | 4¾ | 3 | X | MB8 to S16 and S21 | |
| L | A | 8 | 15/16 | | 2¾ | 1¾ | 2⅜ | 2⅝ | 5 | 3 | X | MB9 to S16 and S17 | |
| TYPE-C | B | 16 | 1/2 | | 2¼ | 2¼ | 2⅜ | 1⅛ | 3½ | 1 | V | MW2 to G1 and G2 | |
| | 3 | 16 | 13/16 | | 1 9/16 | 1 1/16 | 1⅝ | 1⅛ | 2¾ | 1 | V | MW3 to G1 and G2 | |
| | A | 12 | 1 1/16 | | 2 3/16 | 1¾ | 2⅜ | 2⅜ | 4¾ | 3 | X | MB11 to P7 to MM6 | |
| | A | 6 | 13/16 | | 2¾ | 1¾ | 2⅜ | 2⅜ | 4¾ | 3 | X | MB10 to P7 to MM3 | |
| | A | 8 | 13/16 | | 3¾ | 2¾ | 3⅜ | 2⅜ | 5¾ | 3 | X | MB12 to MB10 to P7 to MM3 | |
| | | | | | | | | | | | | MB12 to SP52 to P2 to MM5 | |
| | A | 4 | 13/16 | | 2 | 1 | 1⅝ | 2⅜ | 4 | 3 | X | MB15 to S19 | |
| | B | 12 | 13/16 | | 1 | 1 | 1⅛ | 1⅛ | 2¼ | 1 | V | MB13 to S21-S22 or S16 | |
| | B | 8 | 15/16 | | 1½ | 1½ | 1⅝ | 1⅜ | 3 | 1 | V | MB17 to G1 or G2 | |
| | A | 4 | 15/16 | | 2 | 1 | 1⅝ | 2⅜ | 4 | 3 | X | MB14 to MM11 | |
| | A | 8 | 15/16 | | 2 5/16 | 1⅝ | 2¼ | 2¾ | 5 | 3 | X | MB16 to G1 and G2 | |
| | A | 8 | 13/16 | | 2 | 1 | 1⅝ | 2⅜ | 4 | 3 | X | MB18A to S23 + MM1 | |
| | B | 2 | 13/16 | | 2 | 2 | 2⅛ | 1⅛ | 3¼ | 1 | V | MB19 to G1 | |
| | B | 2 | 15/16 | | 2⅜ | 2⅜ | 2½ | 1¼ | 3¾ | 1 | V | MB19 to G1 | |
| | B | 1 | 15/16 | | 1⅝ | 1⅝ | 1¾ | 1¼ | 3 | 1 | V | MB22 to G1 | |
| | B | 1 | 15/16 | | 2⅛ | 2⅛ | 2¼ | 1¼ | 3½ | 1 | V | MB22 to G1 | |
| | A | 12 | 1 1/16 | | 3⅜ | 2⅜ | 3 | 2¾ | 5¾ | 3 | X | MB20 R to G1 + G2 | |
| | A | 4 | 13/16 | | 2 | 1 | 1⅝ | 2⅜ | 4 | 3 | X | MB23 to MM | |
| | B | 4 | 13/16 | | 1 | 1 | 1⅛ | 1⅛ | 2¼ | 1 | V | MB24 to G3 | |
| | C | 8 | | 5/8 | | | | 1½ | 6¼ | 1 | X | MC9 to floor | |
| | C | 8 | | ¾ | | | | 1½ | 2¼ | | | MB18 to MR1 | |

Summary of Field Rivets (Sub. Div. 5)

| Line No | No Reqd | Diam | Length Under Head |
|---|---|---|---|
| 1 | 10 | ½ | 1⅞ |
| 2 | | | |
| 3 | 5 | ¾ | 1⅝ |
| 4 | 75 | " | 2 |
| 5 | 315 | " | 2⅛ |
| 6 | 240 | " | 2¼ |
| 7 | 140 | " | 2⅜ |
| 8 | 175 | " | 2½ |
| 9 | 475 | " | 2⅝ |
| 10 | 245 | " | 2¾ |
| 11 | 195 | " | 3 |
| 12 | 275 | " | 3⅛ |
| 13 | 145 | " | 3¼ |
| 14 | 55 | " | 3⅜ |
| 15 | 15 | " | 3⅝ |
| 16 | 255 | " | 3⅞ |
| 17 | | | |
| 18 | | | |

J. A. Greenleaf & Sons Co.
Maine Highway Comm Bridge Div
**GUT BRIDGE**
Between
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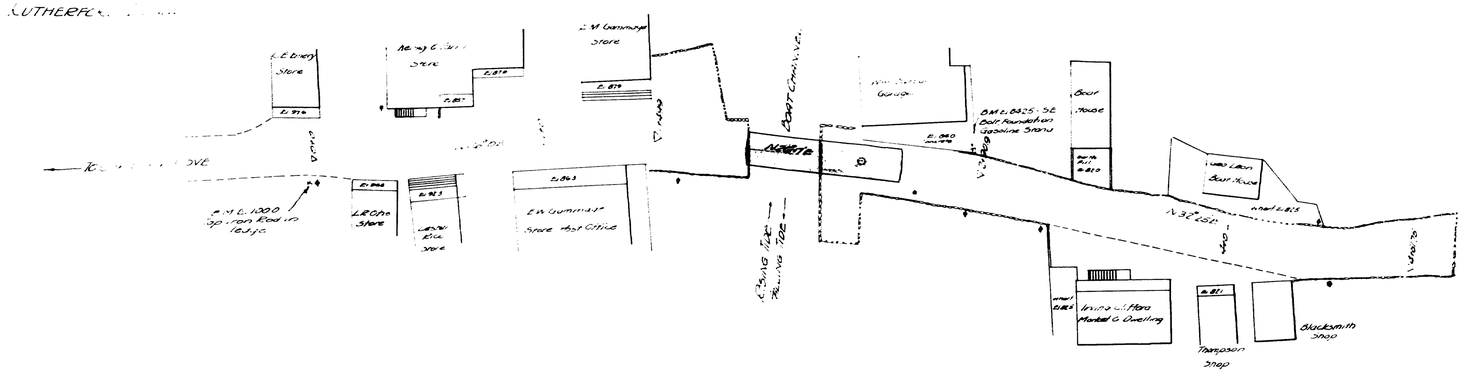
One Bob-Tail Thru Plate Gdr. Draw Span
69'-11" o.to.o Gdrs.

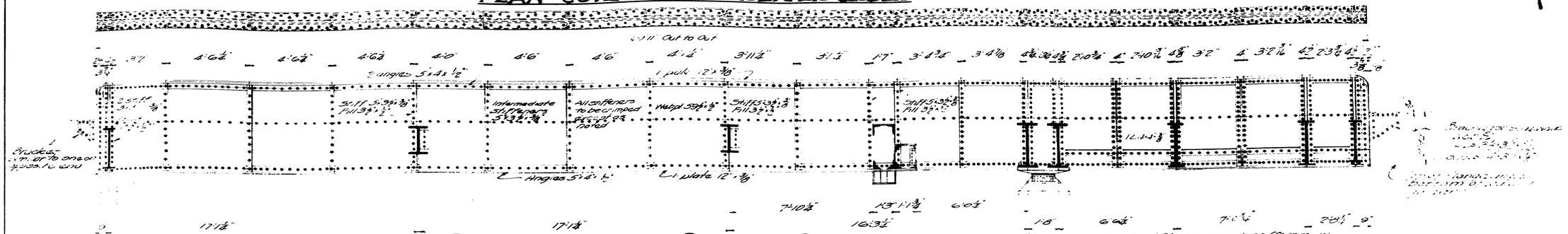
**AMERICAN BRIDGE CO.**
AMBRIDGE PLANT
Dwgs made at Ambridge "S in charge of Reehl
Detailed by DMD Date 6/30 chkd by LHE Date 7/1/30
Fld. comm. chk by L. L. H Date 7/2/30
ORDER NO G3377 M-S SHEET NO 31

10-5

0 1 2 3 4 5 INCHES


RUTHERFORD ISLAND
Store
Store
Store
Store
Store
Store Post Office
Store
Store
Boat House
Boat House
Boat House
Market & Dwelling
Blacksmith Shop
Thompson Shop
BM ± 8.25 ft. SE Bolt foundation Japanese Shrine
BM ± 8.25 ft. SE Bolt foundation Japanese Shrine
EAST CHANNEL
Ferry Landing
Guard
Guard
Guard

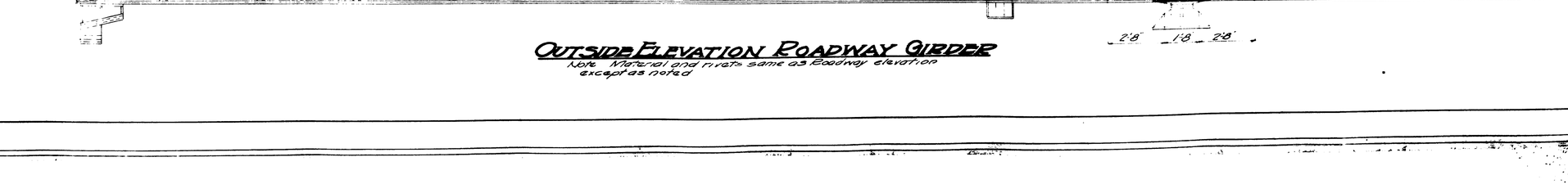
## PLAN COVER PLATE SIDEWALK GIRDER




## ROADWAY ELEVATION SIDEWALK GIRDER

All rivets ⅞"ø except as noted

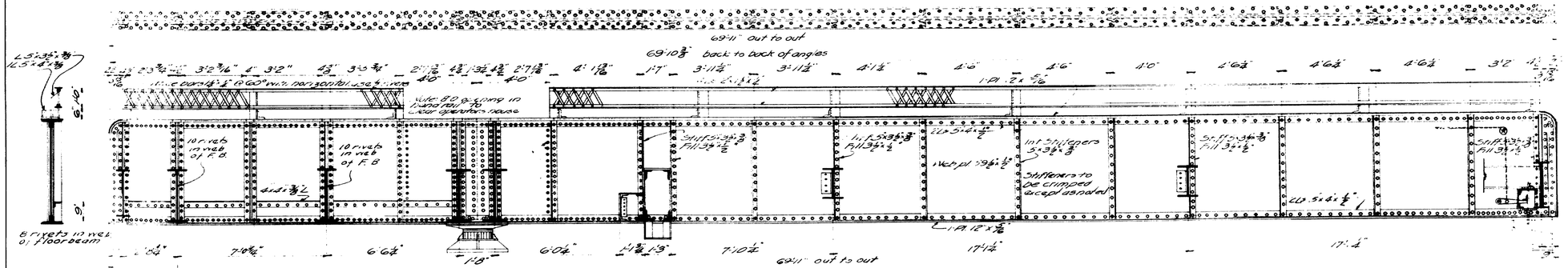
Plate loading girder stiffeners and all stiffeners on counter weight end of girder to be 5"x3½"x⅜ angles and 39½"x½" plates



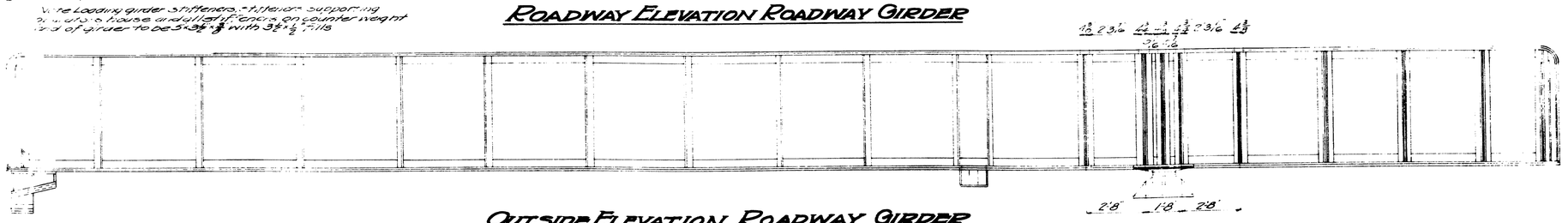

## SIDEWALK ELEVATION SIDEWALK GIRDER

All members and rivets same as Roadway elevation except as noted

## PLAN COVER PLATE ROADWAY GIRDER




## ROADWAY ELEVATION ROADWAY GIRDER




## OUTSIDE ELEVATION ROADWAY GIRDER

Note Material and rivets same as Roadway elevation except as noted

Lyon D. & E. Traced by J. T. Checked by E.L.P.

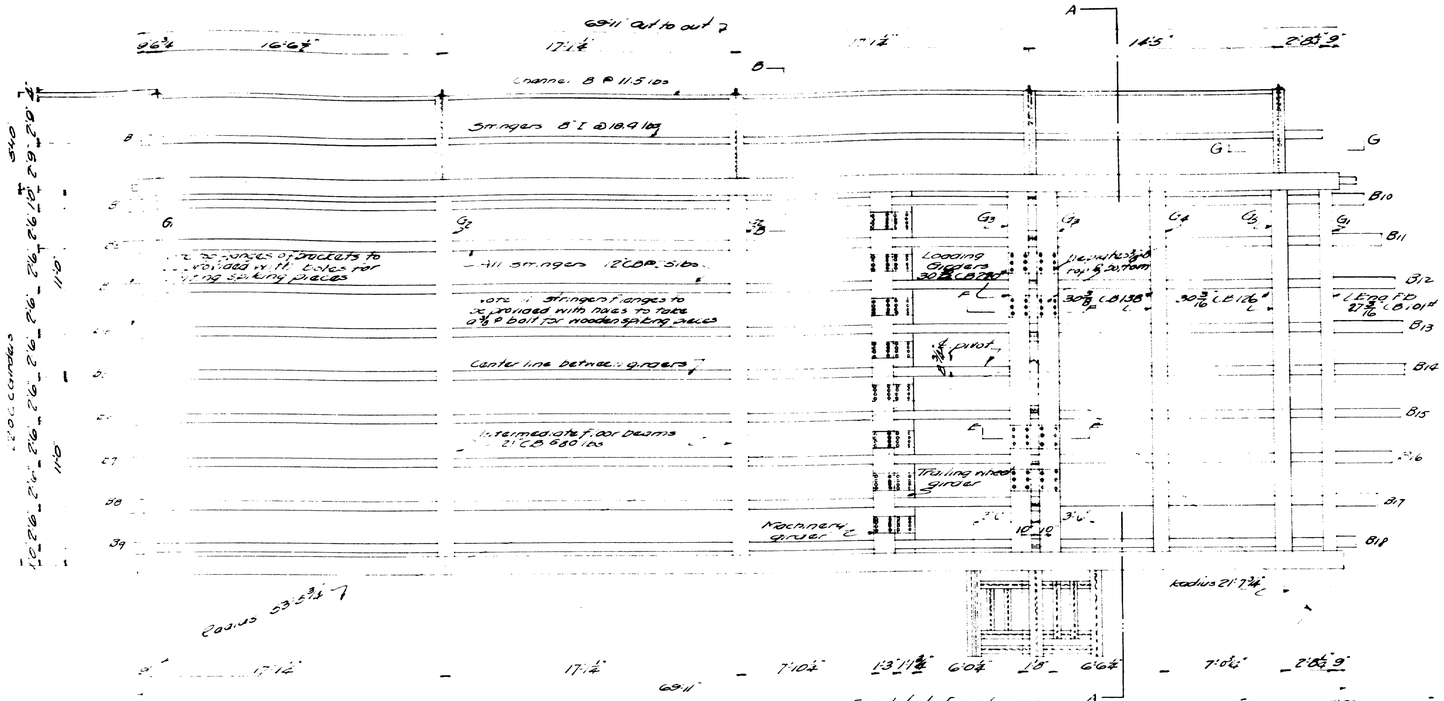
0 1 2 3 4 5 INCHES

WASHINGTON STATE HIGHWAY COMMISSION
DIVISION OF ENGINEERING

GUT BRIDGE
BETWEEN
RUTHERFORD ISLAND
AND
MAINLAND
So. BRISTOL
LINCOLN Co.
GIRDER ELEVATIONS

SHEET 2 OF 3 SHEETS

10-37




MAINE HIGHWAY COMMISSION
BRIDGE DIVISION

# GUT BRIDGE
BETWEEN
RUTHERFORD ISLAND
AND
MAINLAND
So. BRISTOL
LINCOLN Co.
DETAILS

SHEET 3 OF 7

10-

Note— Thoroughly paint the top surface of bedding for pivot pedestal and place upon it three layers 12 oz. duck swabbed freely with red lead paint between each layer, and place pedestal in position while paint is plastic.

Note— Bridge to be balanced so that with wedges free counter weight arm will be ½" above grade. Wedges on counter weight end to be withdrawn after adjustment on opposite end.

Wedge and casting on this end of the truss on opposite side to be operated from split rocker shaft for exit. Extending centre width of Dr. Jye

Sidewalk girder

For detail of limit switch see sheet no 5

Bevel gear 16 p.d 3 d.p. 2½" face 48 Teeth

Bevel gear 12 p.d 2 d.p. 2" face 24 Teeth

Bevel gear 2 d.p. 2" face

8 p.d 16 teeth

One casting for bevel gears

One casting for bevel gears

1297 RPM

17.78 RPM

2333 RPM

328 RPM

Shaft 2⅞"ø

Gear 7 p.d 4 d.p. 28 Teeth 2½" face

Pinion 8 p.d 4 d.p. 12 Teeth 2½" face

Bevel gear 8 p.d 3 d.p. 2½" face 24 Teeth

Gear 18 p.d 4 d.p. 2" face 72 Teeth

Pinion 6 p.d 4 d.p. 1½" face 24 Teeth

Pinion 6 p.d 4 d.p. 1½" face 24 Teeth

Gear 7½ p.d 2 d.p. 15" face 51 Teeth

Pinion 6 p.d 2 d.p. 12 Teeth 1½ face

2½"ø shaft

1½" shaft

Bevel gear 8 p.d 3 d.p. 2½" face 24 Teeth

Gear 18 p.d 4 d.p. 72 Teeth 2½" face

Gear 18 p.d 4 d.p. 2½" face 72 Teeth

1549 RPM

700 RPM

Pinion 6 p.d 4 d.p. 2" face 24 Teeth

1½" shaft

82 RPM

2½"ø shaft

Only one latch required

Roadway girder

For wedge coupling and limit switch detail see sheet no-5

Shaft develops 50000 lbs torque

Wire rope goes to levers in operators house for manual operation of bar wedges

For detail of counter shaft and motor see sheet no-5

Pulley 6" dia

⅜" wire rope

Rope goes to hand lever in operators house

2 L's @ 20 lbs 3x3x⅜ Angle

Latch bull 1"x4½"

⅜" plates

Latch rail 4" dia ⅛" face

Section V-V

Center receiving end of Sidewalk girder

Receiving end of Roadway girder

Radius of track 8'6" Length of track 26'-8" Weight of rail 30 lbs per yard

Centre of track 13'-4" Radius 10'-0" Length of arc 133'-3"

End floor beam

To open 99° ±

End floor beam

22'-0 c.c. girders

## CALCULATIONS

Estimated weight of bridge exclusive of counterweight = 153285 lbs.
Weight of counterweight = 240946 "
Total weight on pivot = 394232 "

Mass = 394232 / 32.2 = 12390

Pivot — c=10.27 — d=11.73 — a=3.13 — b=11.71

Polar moment of inertia = $(a^2+ab+b^2+c^2+cd+d^2)\frac{m}{3}$ =

$(3.13^2+3.13\times11.71+11.71^2+10.27^2+10.27\times11.73+11.73^2)\frac{12390}{3}$ =

89,559,106

Time of opening bridge 2 minutes. Radius of track 10'0"
Total load on 13" bronze disc 402830 lbs. Bridge to open 90°
Friction 15 percent force required at rim of circle to overcome friction on pivot = $15\times394232\times\frac{10.27}{32.2}$ = 3594 lbs.
Force required to accelerate
Time of acceleration 30 sec. Time for retardation 30 sec.
Time of uniform motion 60 sec. $V_a = V_r = \frac{1}{2}V_u$

$30V_a+60V_u+30V_r = \frac{2\times3.1416\times10}{4} = 15.708$

$30V_a+120V_a+30V_a = 15.708$ Average velocity $= V_a = \frac{15.708}{180} = .0872$

$V_u = 2\times.0872 = .1744$

Force required to accelerate bridge = $\frac{893+106}{1.001\,32} \times .1744 = 3.1$ lbs

Wind load = 25 lbs per sq ft. on projected area of girder long arm only

Unbalanced moment = $5\times25\times5.13\times1.5\times2.1$ = 16,848 ft. lbs
Force required at rack = $\frac{16848}{10}$ = 1649 lbs

Total force required = Friction 2154 lbs, Acceleration 521 lbs, Wind 1649 lbs. Total force required at rack 4349 lbs

## PIVOT DETAILS

Required = 8 - 1" ø anchor bolts set in 10" brickmasonry

Holes for 1" anchor bolts

Holes for 1" ø anchor bolts

13" turned dia.

Oil grooves on these surfaces Phosphor Bronze

Finished faced

Tool Steel

Cast steel

Bottom Casting

Detail of Discs

Top Casting

Holes drilled for 1" bolts

Oil Ring

Section X-X

Dust Ring

Oil hole threaded a distance of 2" from top to take a 1"ø pipe

Dustring

Joint between oil ring and bottom casting to be oil tight.

Cross Section of Pivot

## General Plan

## Limit Switch Gearing

a - 6 pinion 8 d.p. 24 teeth ½" face.
b - 12 gear 8 d.p. 96 teeth ¾" face.
c - 3 pinion 8 d.p. 24 teeth ½" face.
d - 13½ gear 8 d.p. 96 teeth ¾" face.
1"ø shaft.

Maximum throw of wedge 12" horizontally

Bottom surface of wedge 2"x12"

Bridge seat elev 80-3½

## Masonry Wedge Plate

Cast iron.

Bevel on wedge and wedge plate

Holes for ¾" bolts

## Details of Latch

## Section A-A

Wedges designed for vertical lift of 12"

½ of shims

Concrete elev 80-4½

Shaft 3½"ø

2½"ø pins

Latch bar and roll to clear wedge masonry plate when bridge opens and closes

Casting and cover for hand operation 12" ø

Finished grade 85-6" at ℄ Roadway

Wedges on counter weight end of bridge are hand operated

End floor beam

Track to have a 2" R.R. Surface to slope ⅛" in Cast steel

Trailing wheels 12" dia. 3" tread - Cast steel. Set trailing wheels with a clearance of ⅜"

½ of shims

½ of shims

½ of wedges

Finished

Finished

Section B-B

Bevel gear 8 p.d. 3 d.p. 2½" face 24 teeth.

Bevel gear 12 p.d. 3 d.p. 2½" face 36 teeth

865 RPM

3 PPK

3" shaft

3" shaft

Pinion 8 p.d. 3 d.p. 2" face 24 teeth

Pinion 10 p.d. 4 d.p. 4" face 15 teeth

Rack 240 p.d. 4 d.p. 4½" face

Gear 23 p.d. 3 d.p. 69 teeth 3½" face.

## Section C-C

2" diam forging with sleeve nut right and left hand threads

Clevices to be part of forging

2" Square shank on top of shaft for hand operation

Maximum Section Forged steel

## View D-D

Open wire rope socket for ⅝" rope

Shaft 3½"ø

Wire rope for wedge operation to be galvanized cast steel 6x19

## View E-E


MAINE HIGHWAY COMMISSION
BRIDGE DIVISION


# GUT BRIDGE
BETWEEN
# RUTHERFORD ISL.
AND
# MAINLAND
# SOUTH BRISTOL
# LINCOLN CO.

MACHINERY PLAN
Augusta, Me. March, 1929

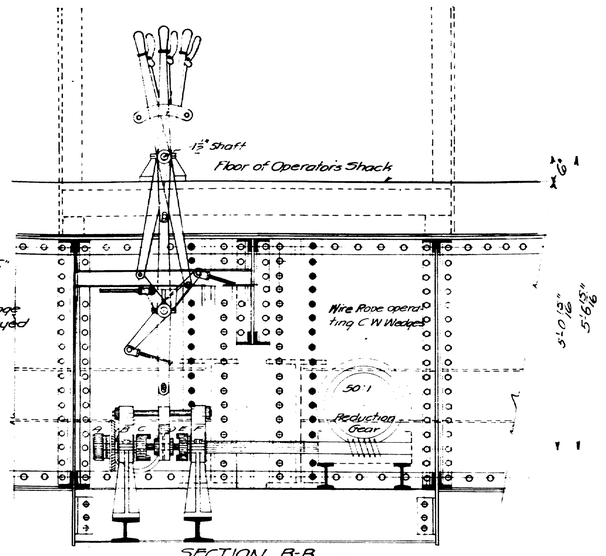
Sheet 6 of 7

10-39

Boaty Smith Lead in Ink

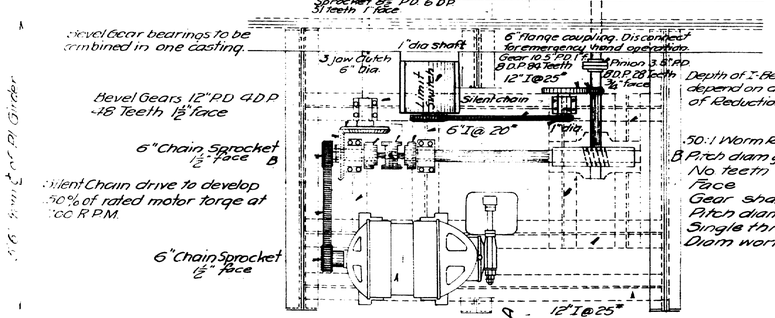
0 1 2 3 4 5 INCHES

The chain sprocket is keyed to a 1 7/16" ϕ shaft that extends to the right through a hollow shaft, 2 5/8" ϕ to which is keyed the bevel gear and clutch "C" and through the bevel gear 2 5/8" ϕ to which is keyed clutch "D". The hollow shaft is to be connected to the worm shaft either by flange coupling or insulated joint. The clutch "D" is keyed to the 1 7/16" ϕ by means of a limit a 1 3/8" throw either side of the neutral position.

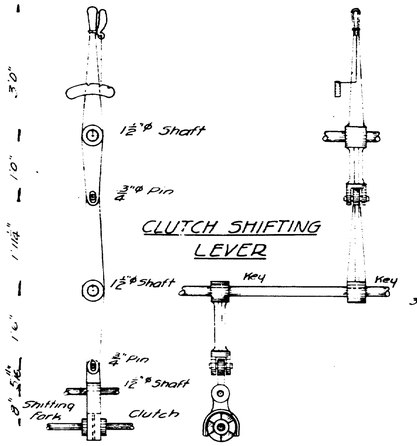


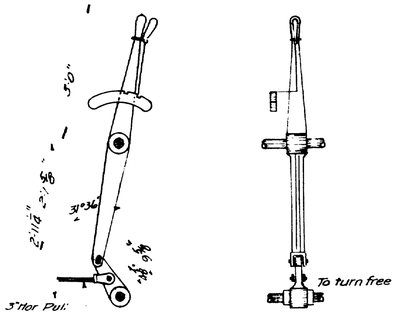

SECTION B-B

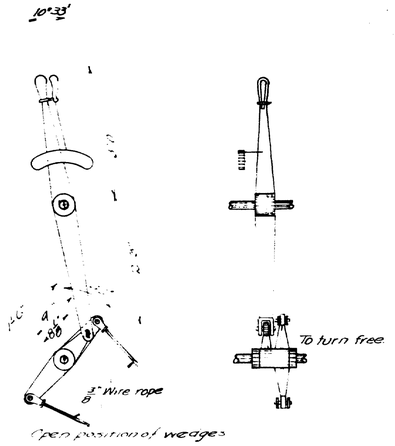
Clutch operating mechanism omitted for clearness



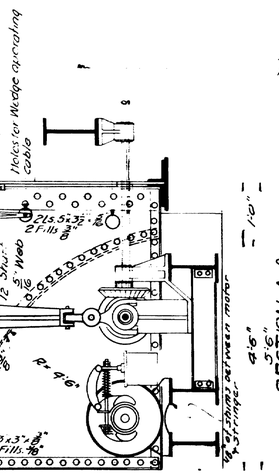

MACHINERY PLATFORM PLAN



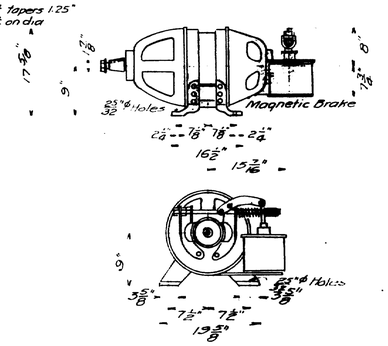



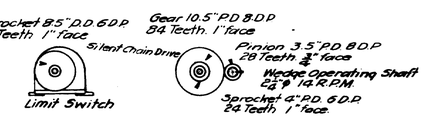




COUNTERWEIGHT WEDGE LEVER

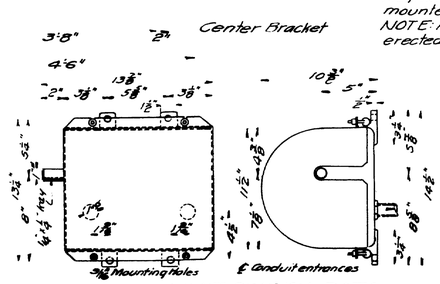



SECTION A-A




LIMIT SWITCH DRIVE




LIMIT SWITCH DATA

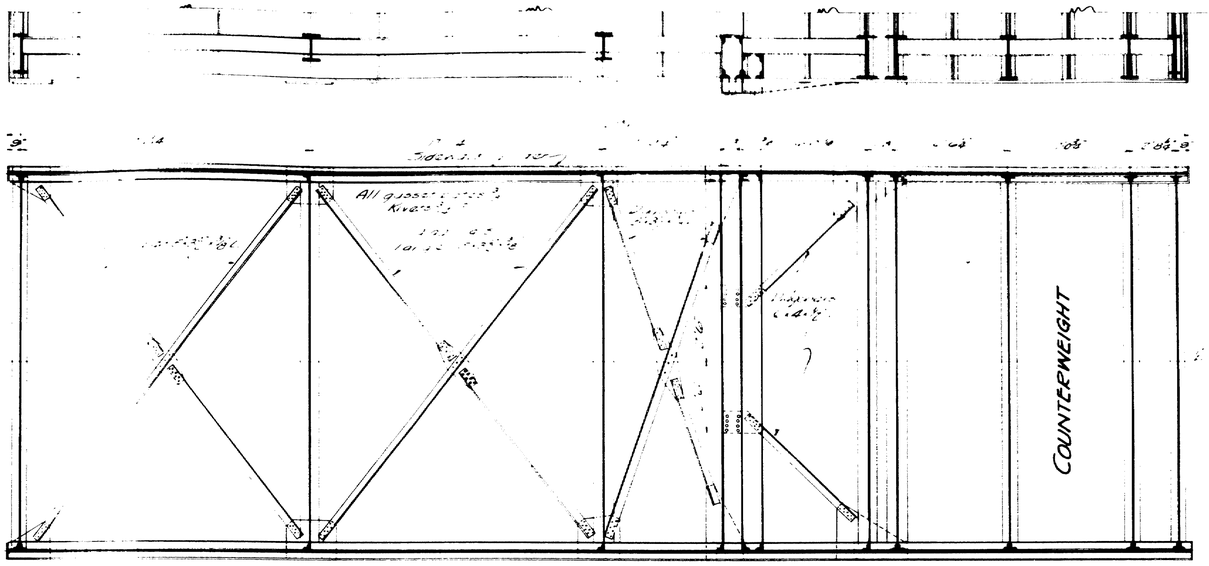
MAINE HIGHWAY COMMISSION
BRIDGE DIVISION

# GUT BRIDGE
BETWEEN
# RUTHERFORD ISLAND
AND
# MAINLAND
So BRISTOL
# LINCOLN Co.

MACHINERY PLATFORM DETAILS
SHEET NO. 4 OF 7 SHEETS

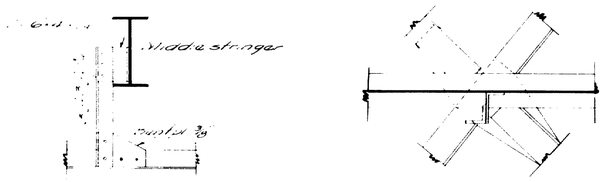
6 FHS 4 GLD

0 1 2 3 4 5 INCHES

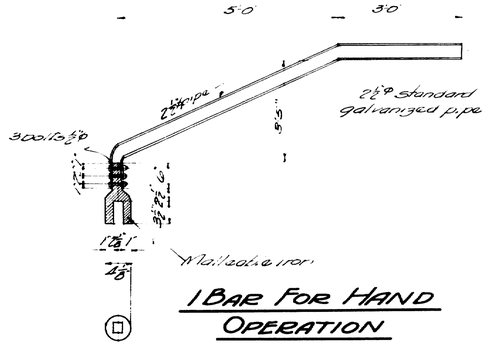



Pin and plate for 1 1/2" ø bar or latch bar

## PLAN LOWER LATERALS




## HANGER DETAIL



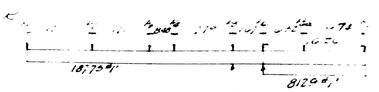

## 1 BAR FOR HAND OPERATION

COUNTERWEIGHT NOTE

Concrete counterweight as shown at 243946 lbs. Footings, floor system, handrail, sidewalk, and one-half of end posts and top chords weighing 20,000 lbs. Total weight of counterweight 263946 lbs. Weight of concrete taken at 150 lbs. per cu. ft. Cast iron castings in an amount equal to 10 percent of the theoretical weight of the counterweight shall be used. Add 1500 lbs. for a 2 percent adjustment. Number of castings should be such as to make the center of gravity of the counterweight fall as close as possible to the center line of the bascule pier. Concrete in such a manner to provide for both weight and horizontal balance.

## CALCULATIONS FOR GIRDERS

SINGLE LEAF




Weight of leaf

(1473 × 5.3 × 12.19 + 342 + 1044) 1.05 = 7806.862
(1939 × 8.33 × 1.89 + 513 + 7563 + 402 + 622.125
(1265 × 7.71 × 8.71 + 736 + 8.71 + 870 × 18.25 × 171 + 855 = 2.95392.00
Machinery = 60 × 10.75 × 1.05 = 1.452.30
Counterweight arm = 8965
Weight of counterweight = 263946 lbs
Total weight of leaf = 288791 lbs

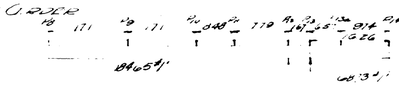
Value of R2 Moments about R1

(1473 × 30.4 + 12.19 × 26.08 + 1044 × 17.92 + 7806 × 9.46
(1939 × 8.33 × 1.89 + 513 × 7.563 + 402 × 622.125
+ 8.71 × 6.521 × 0.419 + 26.189.75 = 484.1.94
+ 8.139 × 19.26 × 9.13 = 0
- 1.67 R2 = + 492.5006 + 7.249695
R1 = 108875 lbs

Value of R2 Moments about R1

(1473 × 5.04) - 7219 × 3.337 + 1044 × 16.27 = 7806 × 7.79
+ 1939 × 5.04 × 1.89 × 0.513 × 6.521 × 0.419 × 26 × 189.75 = 484.1.94
- 189.75 × 6.84 × 1.67 R2 + 8.139 × 19.26 × 9.13 = 0
- 1.67 R2 = - 1327.592 + 1503.835
R2 = 105421.0 lbs

ROADWAY GIRDER




Moment about R1

Long arm
7999 × 5.13 × 9.71 + 342 + 7960 × 17.1 + 8317 × 8.62
8265 × 8.35 × 18.465 × 5.13 × 3.25 lbs = 1.209.408 ft lbs.

Short arm
9227 × 17.1 + 8.71 × 7.36 + 10.84 × 8.35 × 18.465 × 17.1 × 8.55 = 199962 ft lbs

Counterweight moment = 1.091.842
Counterweight arm = 8.965
Net weight of counterweight = 11702 lbs.
Net weight effective = 6873 lbs

Moments about R2

(7999 × 5.18 + 9712 × 3.58 + 7960 × 17.94 - 8571 × 9.46 - 8263.1 × 6.71 - 6873 × 16.26 × 8.13 = 0
- 18465 × 6.82 × 17.94 + 9227) + 16.26 (8711 × 6.52 + 6873 × 16.26 × 8.13 = 0
16 R2 = 1221646 + 1044252 = 0
R2 = 94248 lbs

Moments about R2

- 7998 × 30.47 - 9712 × 33.37 - 7960 × 16.27 - 8571 × 7.79 - 16.7 R1
- 18465 × 6.82 × 16.27 + 10.84 × 16.27 × 8711 × 8.19 + 9227 = 1.193
+ 6873 × 16.26 × 8.13 = 0
- 16.7 R1 = - 1.129507 + 1285.376 = 0
R1 = 93299 lbs

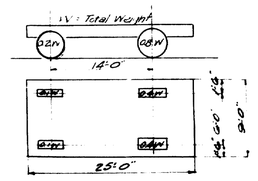
SW GIRDER

(illegible) Moment about R1

(1473 × 30.4 + 12.19 × 33.37 + 1044 × 16.27 + 7806 × 7.79
+ 1.89.75 × 30.47 × 25.235 = 1.359537 - 103 = 1631488 (illegible) 120 (illegible)
1937762 lbs tot moment req'd

Note: Roadway girders same except roadway girder will have 7/16 cover plates

All rivets 3/4" ø except as noted




H10 LOADING PER 9' LANE

WASHINGTON COMMISSION
BRIDGE DIVISION

# GUT BRIDGE
BETWEEN
# RUTHERFORD ISLAND
AND
# MAINLAND
# SO. BRISTOL
# LINCOLN CO

GIRDER LATERALS & CALCULATIONS
SHEET 6 OF 7

MAR

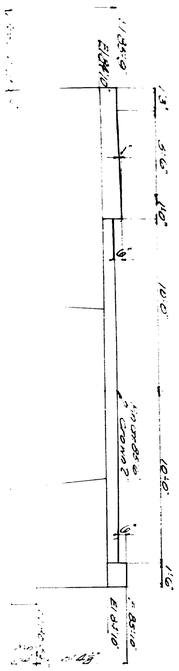
10-

W.H.B.
E.C.C.

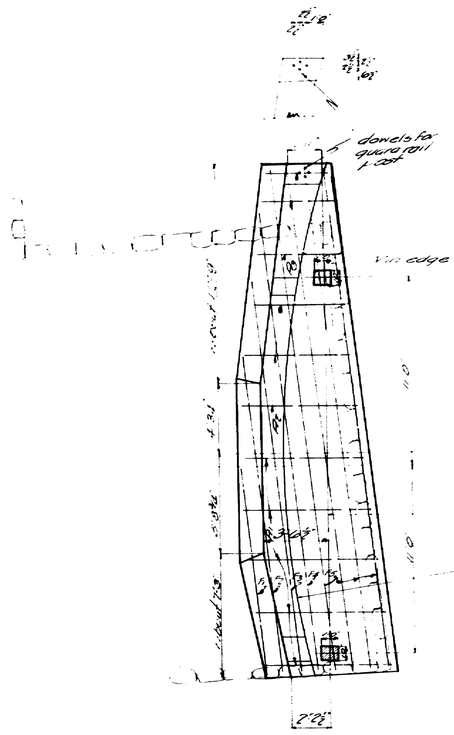
## STEEL SCHEDULE

| Mark | Size | No. Reqd | Tot | Mark | Size | No. Reqd | Tot |
|---|---|---|---|---|---|---|---|
| P0 | ½" ø | 1 | 7'3 | S7 | ⅜" ø | 1 | 18'6 |
| P1 | " | 3 | 6'6 | S8 | " | 1 | 14'6 |
| P2 | " | 3 | 5'0 | S9 | " | 9 | 35'9 |
| P3 | " | 1 | 12'0 | S10 | " | 9 | 41'0 |
| P4 | ⅝" ø | 1 | 18'6 | S11 | " | 8 | 39'6 |
| P5 | " | 1 | 23'0 | S12 | " | 10 | 39'9 |
| P6 | " | 1 | 27'0 | S13 | " | 4 | 39'0 |
| P7 | " | 1 | 29'0 | S14 | " | 1 | 22'0 |
| S1 | " | 4 | 29'0 | S15 | " | 2 | 17'9 |
| S2 | " | 25 | 27'0 | S16 | " | 1 | 12'6 |
| S3 | " | 10 | 32'6 | S17 | " | 1 | 11'0 |
| S4 | " | 11 | 31'0 | S18 | " | 1 | 8'6 |
| S5 | " | 6 | 28'0 | B1 | ⅛" ø | 7 | 34'0 |
| S6 | " | 1 | 26'6 | B2 | " | 2 | 28'9 |
| S6 | " | 1 | 21'0 | B3 | " | 9 | 40'0 |

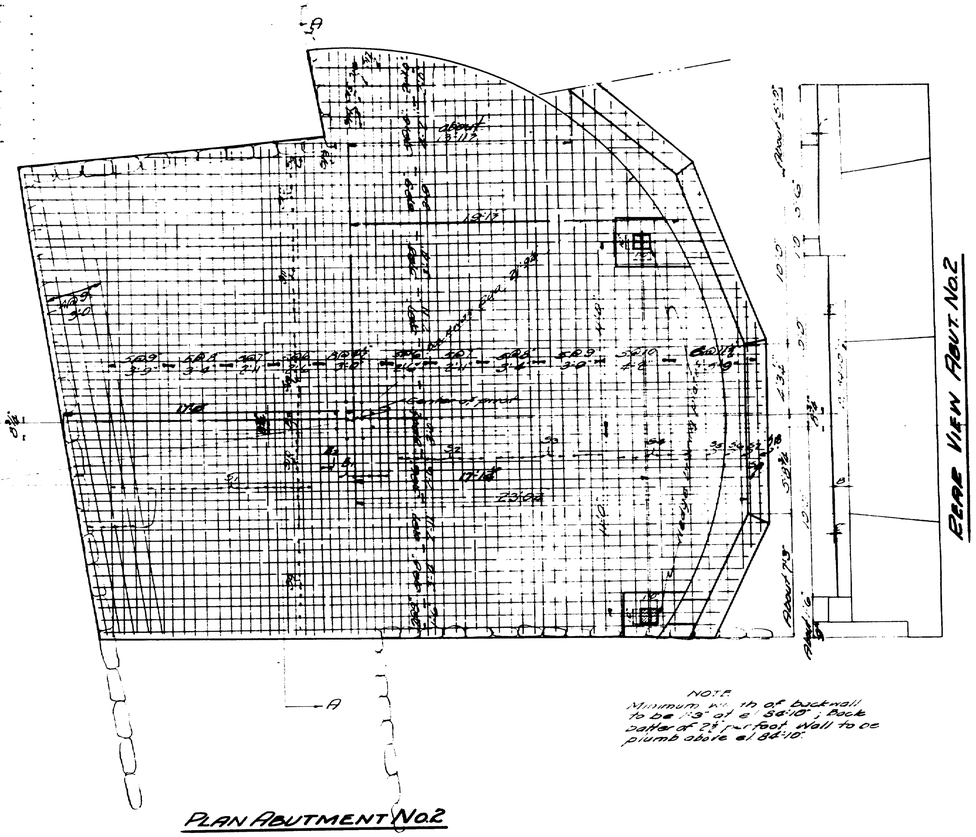
All steel to be ⅜ in round bars of structural grade. All dimensions are to ctrs of bars.




EDGE VIEW ABUT No.1

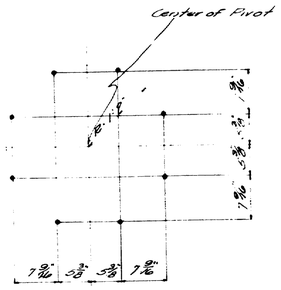



PLAN ABUTMENT No.1

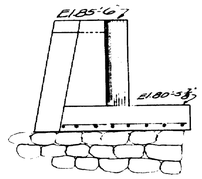



EDGE VIEW ABUT No.2

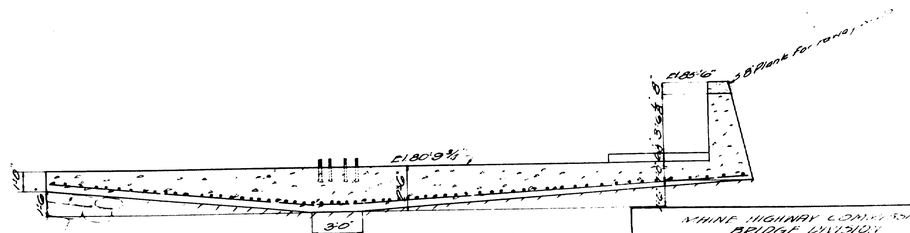
PLAN ABUTMENT No.2



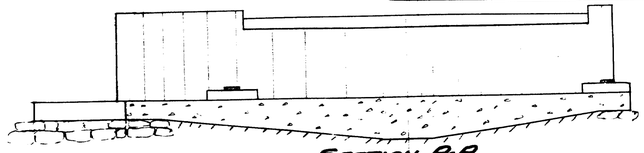

LOCATION OF PIVOT ANCHOR BOLTS




END VIEW ABUT No.1




SECTION ABUT. No.2 ALONG ℄



SECTION A-A

MAINE HIGHWAY COMMISSION
BRIDGE DIVISION

GUT BRIDGE
BETWEEN
RUTHERFORD ISL & MAINLAND
IN THE TOWN OF
SO. BRISTOL – LINCOLN CO

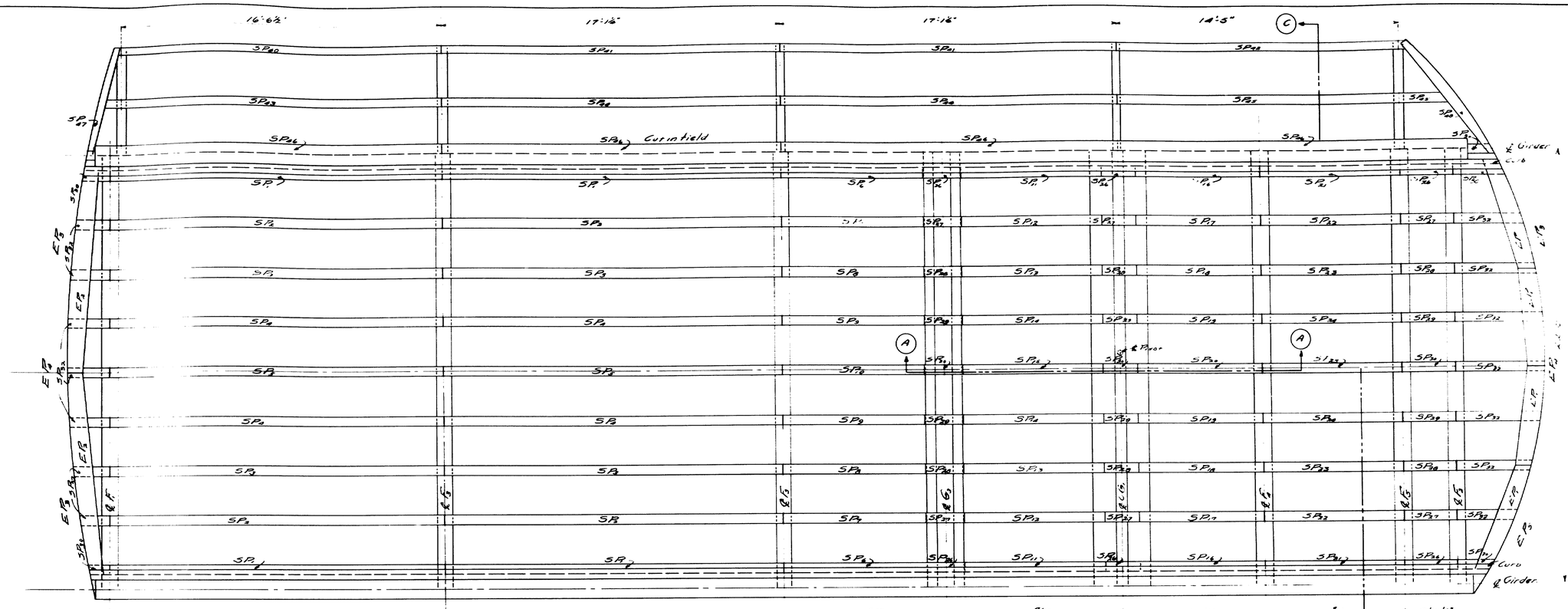
Substructure Plan

SHEET 7 OF 7

APRIL 1940

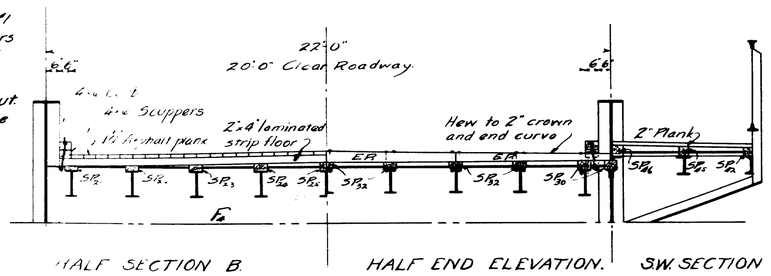
10-4

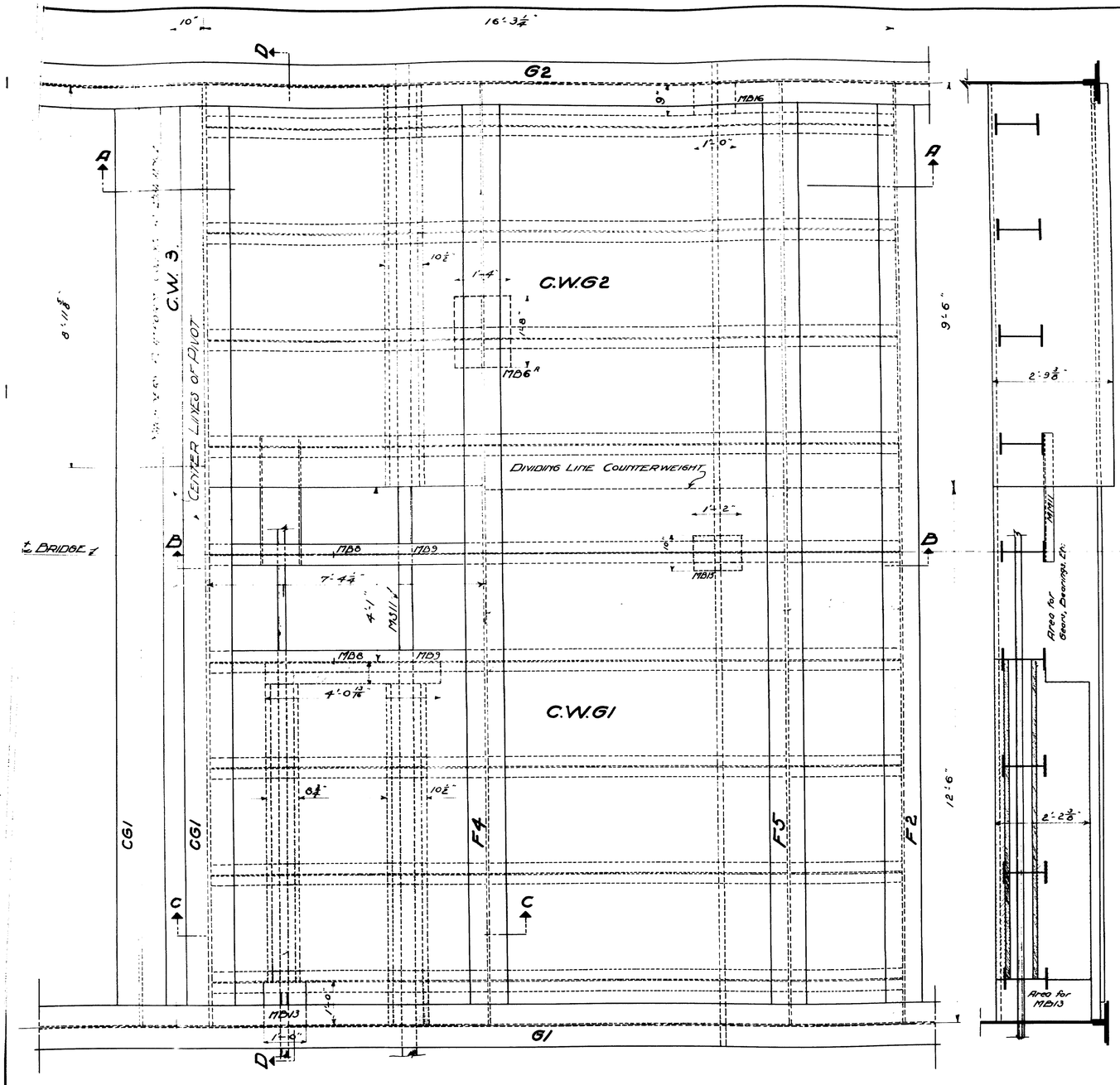
0 1 2 3 4 5 INCHES



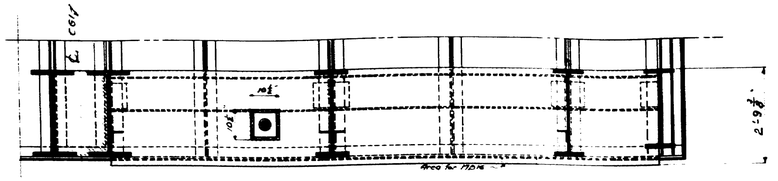

FLOOR PLAN of SPIKING PIECES.

Note:
From Abut #1 to CG1. scuppers are 4"x6"x1'-0" @ 3'-0" centers. From CG1 to Abut. 2 scuppers are a solid piece.

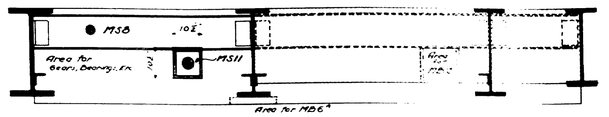

22'-0"
20'-0" Clear Roadway
6'-6"
6'-6"
4"x6" Scuppers
1½" Asphalt plank
2"x4" laminated strip floor
Hew to 2" crown and end curve
2" Plank
EB
EB
EB



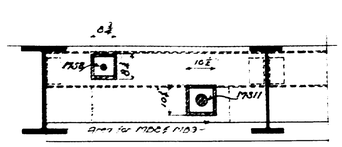

COUNTERWEIGHT PLAN



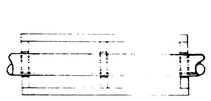

SECTION A-A



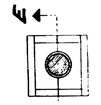

SECTION B-B




SECTION C-C



SECTION E-E



END VIEW SHAFT HOUSING

SECTION D-D

| COUNTERWEIGHT | VOLUME | WEIGHT OF 300# CONCRETE | REQUIRED WEIGHT |
|---|---|---|---|
| CW3 | 32.79 | 9838# | 9836# |
| CWG1 | 372.51 | 112374# | 112425# |
| CWG2 | 418.87 | 125650# | 27902# |

Note:-

Concrete is assumed to weigh 300# per cu ft when set. From past experience the loss due to water evaporation will be approximately .5%. This loss in weight is a very small factor and the mix should be maintained between the limits of 300# to 305# wet.

To determine proper mix:

Make experiments starting with following proportions:

26# lbs cement
52# lbs sand
220# lbs punchings

which should give about 1 cu ft of mixed concrete

MAINE HIGHWAY COMMISSION
BRIDGE DIVISION
# GUT BRIDGE
BETWEEN
# RUTHERFORD ISLAND
AND
# MAINLAND
SOUTH BRISTOL
LINCOLN, CO.
COUNTERWEIGHT PLAN
SHEET AUGUSTA, ME. SEPT. 1936

10-44

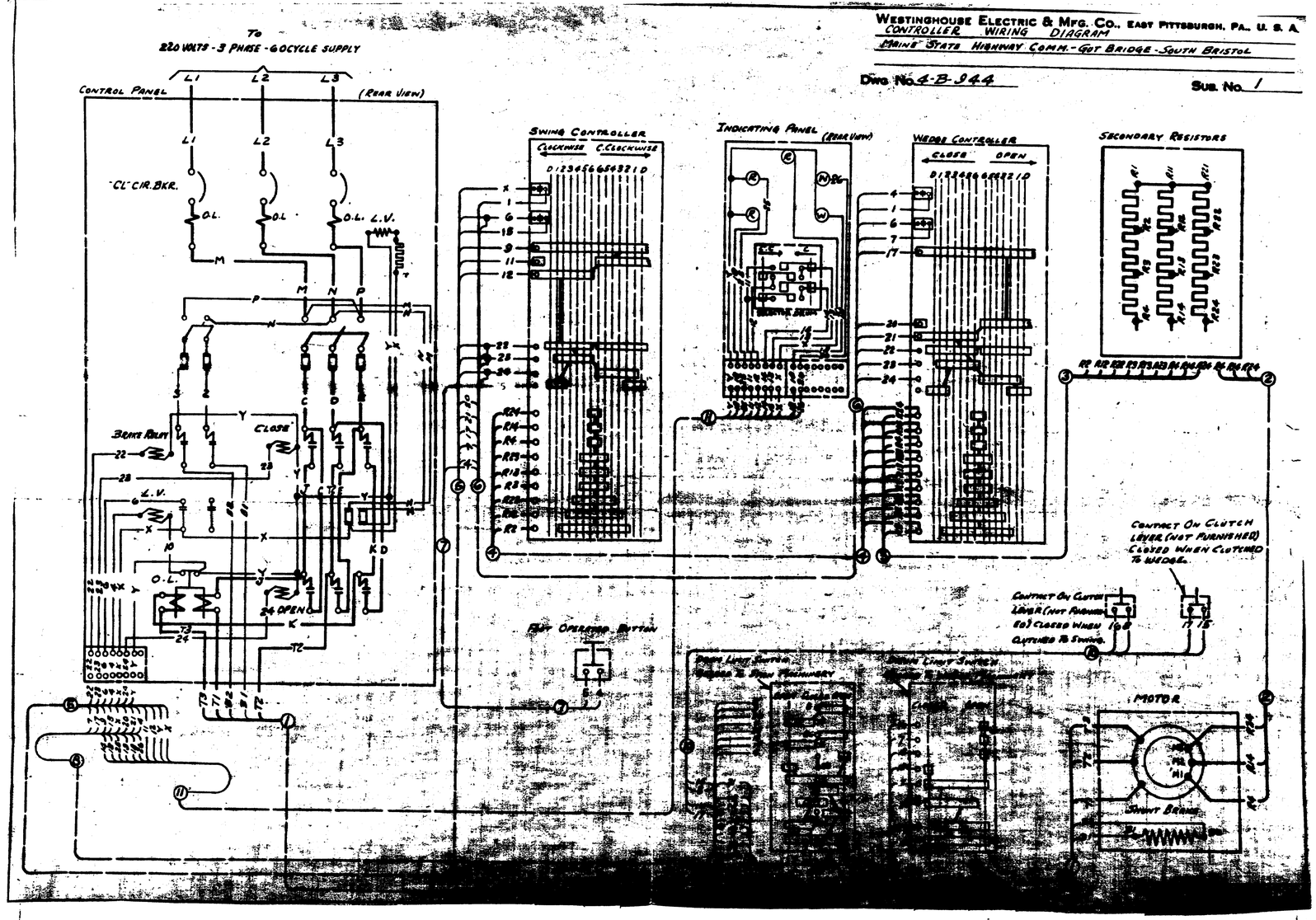
0 1 2 3 4 5 INCHES

WESTINGHOUSE ELECTRIC & MFG. CO., EAST PITTSBURGH, PA., U. S. A.

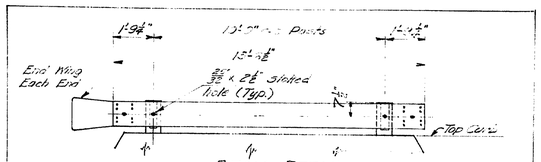
CONTROLLER WIRING DIAGRAM

MAINE STATE HIGHWAY COMM. - GOT BRIDGE - SOUTH BRISTOL

Dwg. No. 4-B-944 Sub. No. 1




136:157




NOTE: All Material shall be galvanized

## TYPE "E" GUARD RAIL

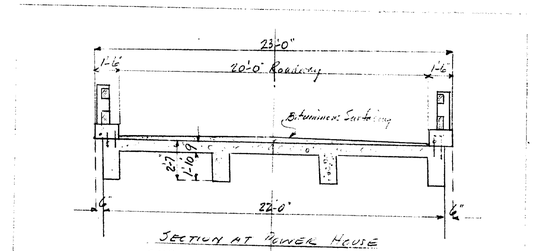
Required Material

2- Beam Panels with End Wings
4- 12'-4" x ½" x 1'-1"
8- Anchor Bolts ⅝" x 10" long Hex. nut & washer
4- Slotted Button Head Bolts ⅝" x 2½" long with washer only.

136:150

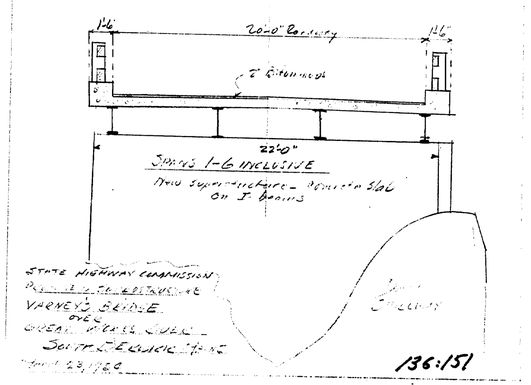
MAINE STATE HIGHWAY COMMISSION - AUGUSTA, ME.

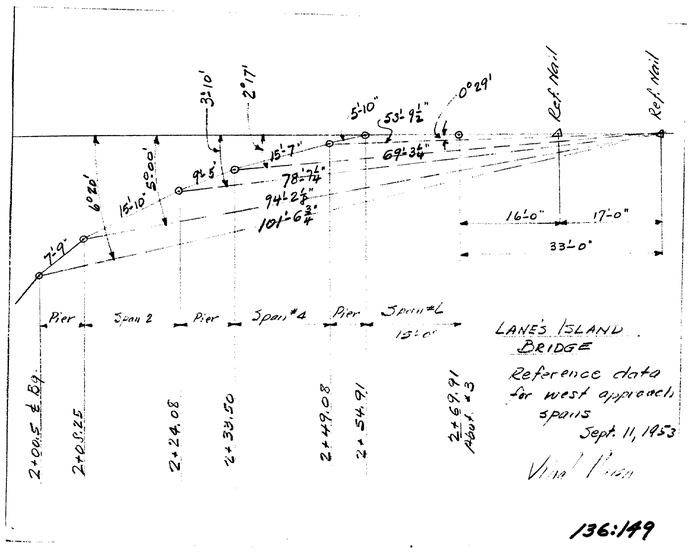
VINALHAVEN - GRANITE ISLAND BRIDGE, RAIL DETAILS MAY 1963



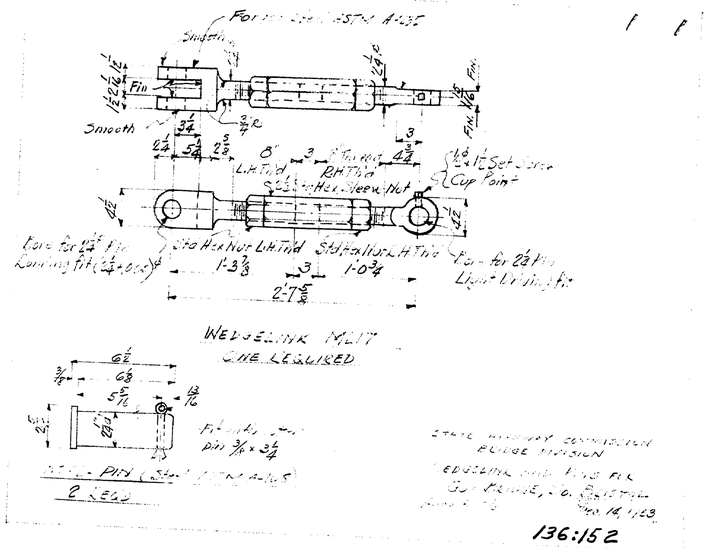

SECTION AT "RIVER HOUSE AND ADJACENT SPANS

(Retain Curb & Slope - Omit Rail & Posts)

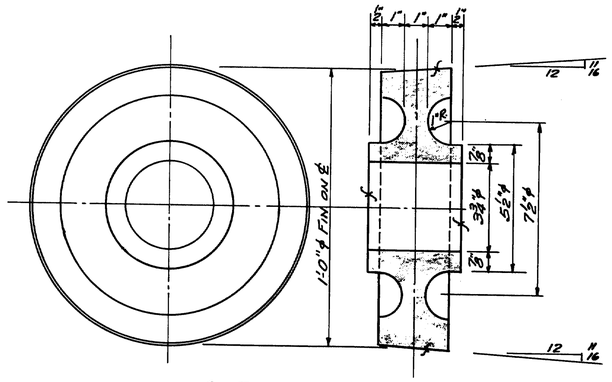



136:149



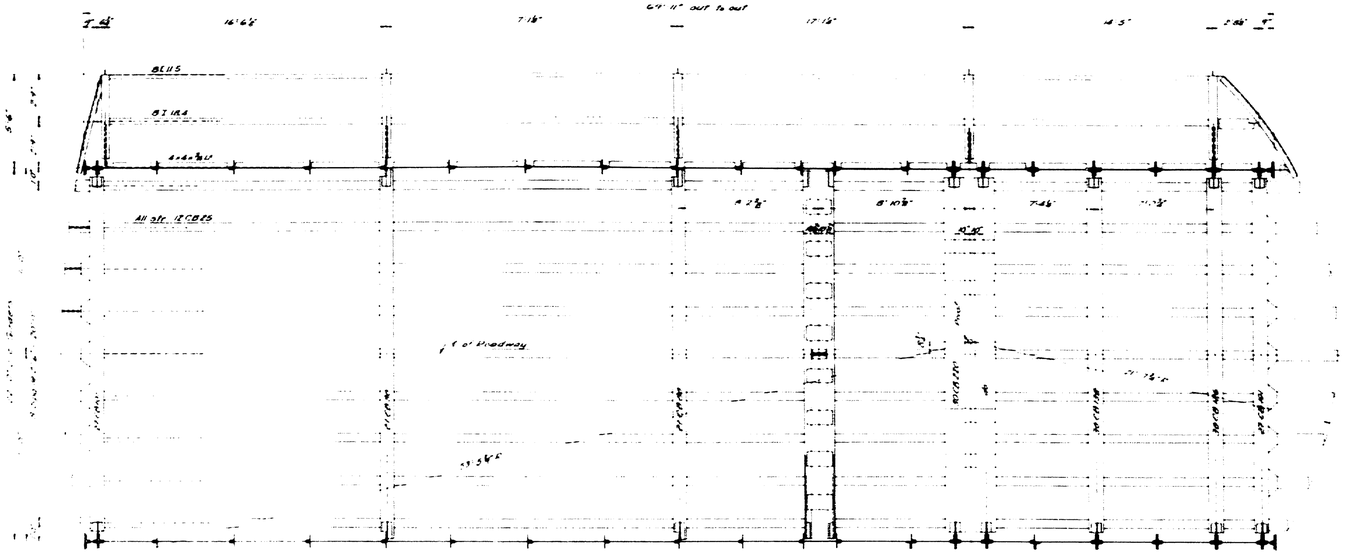

136:152




6 - BALANCE WHEELS
STRUCTURAL STEEL
FOR GUT BRIDGE - So. BRISTOL
State Highway Commission - Augusta, Me.
Feb. 13, 1958.

136:156

| B P R REG NO | STATE | PROJECT NUMBER | SHEET NO | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | | | |




## PLAN OF EXISTING FLOOR SYSTEM

under cover plates and flange angles are not shown

Existing floor consists of diagonal planking on laminated two by fours on nailing strips

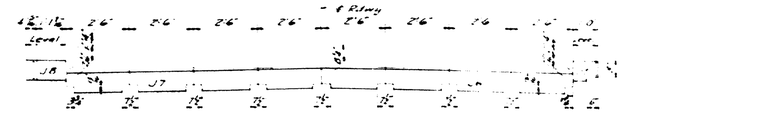
### ABUTMENT NOTE

After grid is set on swing span, complete, field shall alter spades of abutment backwall tops to match end trim channels. The timber caps between curbs shall be removed and replaced with Class A concrete to the new grade. If changes are required at sidewalk ends, at least 4" of new concrete depth shall be provided. New concrete shall be doweled to old by #6 bars, 1'-0" long, at 2'-0" maximum centers.

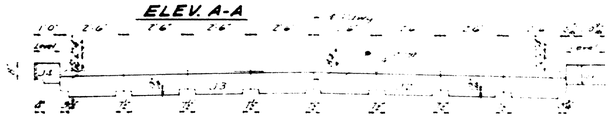
The existing sidewalk and roadway surfaces shall be patched and regraded to meet the new abutment elevations

Note:

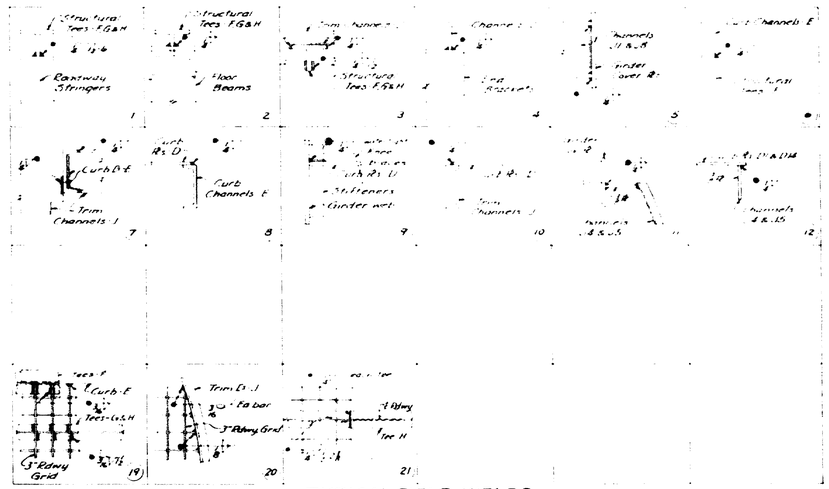
The field welding shown is intended as a minimum. If the manufacturers standards require more field welding, sufficient details and be furnished with the shop details, and the manufacturers standard field welding shall be used



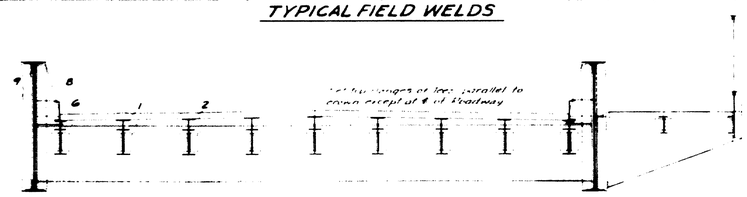

## ELEV. A-A




## ELEV. B-B

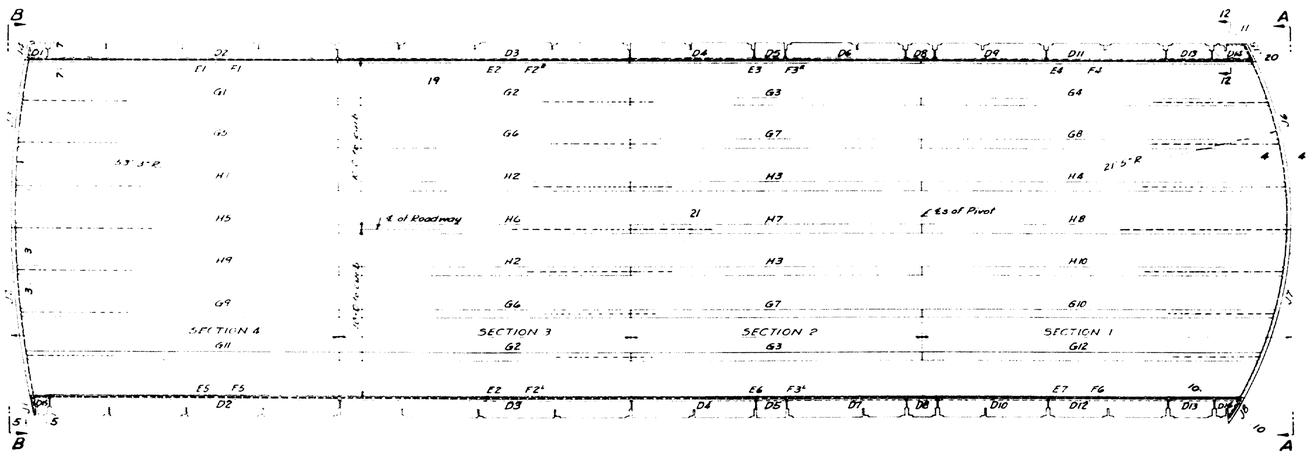



## TYPICAL FIELD WELDS




## TRANSVERSE SECTION

See Sheet 3 for enlarged section




## PLAN OF STEEL GRID SUPPORTS

See Sheet 2 for details of supports

FIELD PROCEDURE

Construct roadway floor in four "Sections" in the sequence shown on "Plan of Steel Grid Supports"

Maintain traffic over bridge during reflooring by use of temporary blocking and planking

| | |
|---|---|
| DESIGN - HARRIS | BRIDGE NO. 2339 |
| TRACE - HARRIS | SURVEY NO. |
| CHECK - | |

STATE HIGHWAY COMMISSION
BRIDGE DIVISION

# GUT BRIDGE
BETWEEN
RUTHERFORD ISLAND
AND
MAINLAND
SOUTH BRISTOL
LINCOLN COUNTY

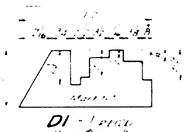
STEEL GRID REFLOORING LAYOUT

SHEET 1 OF 3 AUGUSTA, MAINE JULY 1958

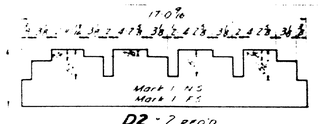
79 - 179

| B P R REG. NO. | STATE | PROJECT NUMBER | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | | | |

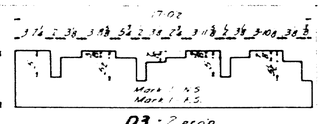
Dimensions shown are based on a clearance of ½" at each side of notches and no clearance for depth of notches. Shop tolerances should be towards increasing the size of notches but no greater than can be bridged by field fillet welds.




**D1** - 1 REQD.
W 14 x 53



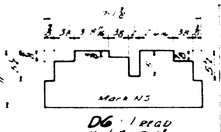

**D2** - 2 REQD
W 14 x 68 x 17'-0⅞"



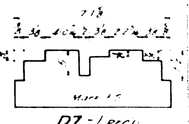

**D3** - 2 REQD
W 14 x 68 x 17'-0⅞"

**D4** - 2 REQD
W 14 x 53 x 7'-2⅛"

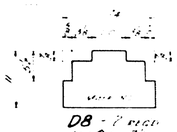
**D5** - 2 REQD
W 14 x 53 x 1'-8"



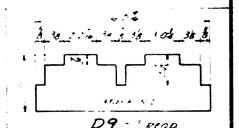

**D6** - 1 REQD
W 14 x 68 x 7'-1¾"



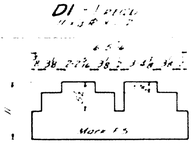

**D7** - 1 REQD
W 14 x 68 x 7'-1⅞"



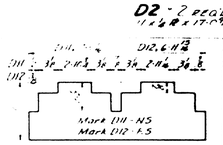

**D8** - 1 REQD
W 14 x 68 x 7'-0"



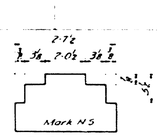

**D9** - 1 REQD
W 14 x 68 x 6'-5¾"



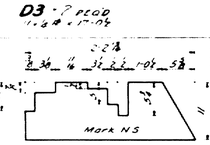

**D10** - 1 REQD
W 14 x 53 x 6'-5¾"



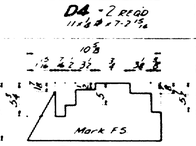

**D11** - 1 REQD **D12** - 1 REQD
W 14 x 68 x 11'-2"



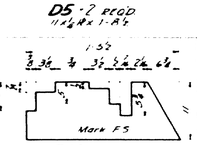

**D13** - 2 REQD
W 14 x 68 x 2'-7½"



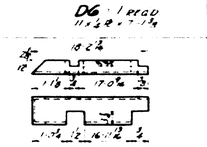

**D14** - 1 REQD
W 14 x 68 x 2'-5½"



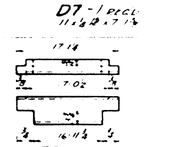

**D15** - 1 REQD
W 14 x 68 x 10'-5"



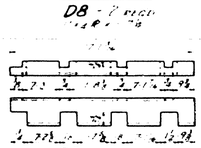

**D16** - 1 REQD
W 14 x 68 x 1'-5½"



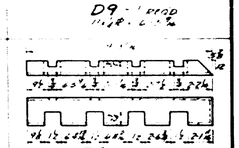
**E1** - 1 REQD
9" [13.4 x 18.2]



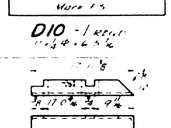
**E2** - 2 REQD
9" [13.4 x 17.0]



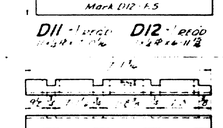
**E3** - 1 REQD
9" [13.4 x 17.0]



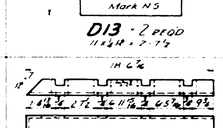
**E4** - 1 REQD
9" [13.4 x 19.4]



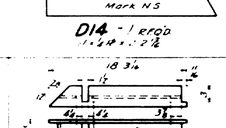
**E5** - 1 REQD
9" [13.4 x 17'-11⅝]



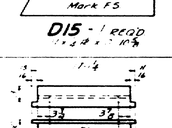
**E6** - 1 REQD
9" [13.4 x 17'-7¾]



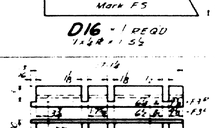
**E7** - 1 REQD
9" [13.4 x 18'-6¾]



**F1** - 1 REQD
ST 41.92 x 18'-3½"

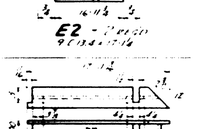


**F2R** - 1 REQD EACH
ST 41.92 x 17'-1¼"

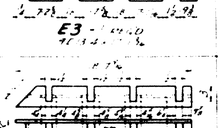


**F3R** - 1 REQD EACH
ST 41.92 x 17'-1¼"

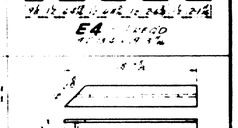
**F4** - 1 REQD
ST 41.92 x 19'-8¾"



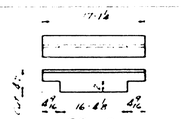
**F5** - 1 REQD
ST 41.92 x 17'-[illegible]"



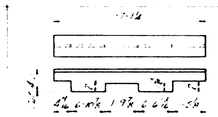
**F6** - 1 REQD
ST 41.92 x 18'-[illegible]"



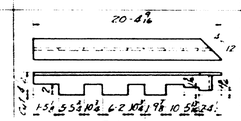
**G1** - 1 REQD
ST 41.92 x 18'-7⅞"



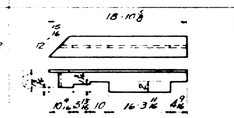
**G2** - 2 REQD
ST 51.27 x 17'-1¼"



**G3** - 2 REQD
ST 51.27 x 17'-1¼"

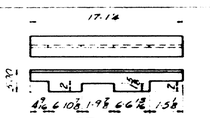


**G4** - 1 REQD
ST 51.27 x 20'-8¼"

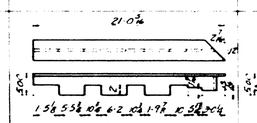


**G5** - 1 REQD
ST 51.27 x 18'-10⅜"

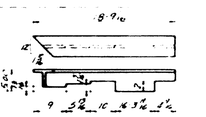
**G6** - 2 REQD
ST 51.27 x 17'-1¼"



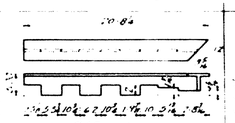
**G7** - 2 REQD
ST 51.27 x 17'-1¼"



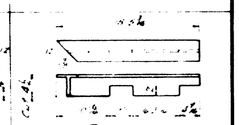
**G8** - 1 REQD
ST 51.27 x 21'-0½"



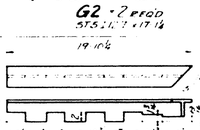
**G9** - 1 REQD
ST 51.27 x 18'-9¼"



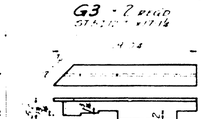
**G10** - 1 REQD
ST 51.27 x 20'-8¼"



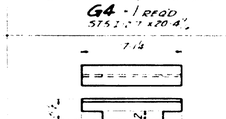
**G11** - 1 REQD
ST 51.27 x 18'-5⅞"



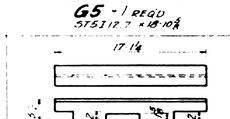
**G12** - 1 REQD
ST 51.27 x 19'-10⅝"



**H1** - 1 REQD
ST 61.59 x 19'-0⅛"

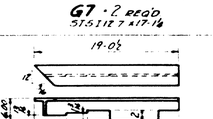


**H2** - 2 REQD
ST 61.59 x 17'-1¼"

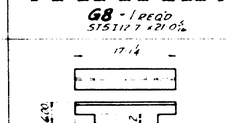


**H3** - 2 REQD
ST 61.59 x 17'-1¼"

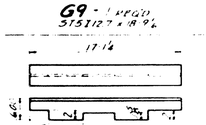
**H4** - 1 REQD
ST 61.59 x 21'-8¾"



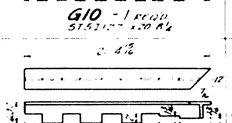
**H5** - 1 REQD
ST 61.59 x 19'-0½"



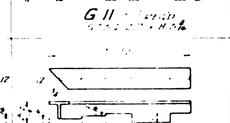
**H6** - 1 REQD
ST 61.59 x 17'-1¼"



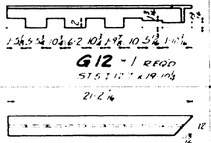
**H7** - 1 REQD
ST 61.59 x 17'-1¼"



**H8** - 1 REQD
ST 61.59 x 21'-8¾"

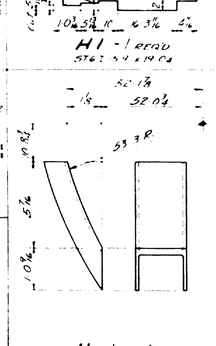


**H9** - 1 REQD
ST 61.59 x 18'-10⅝"

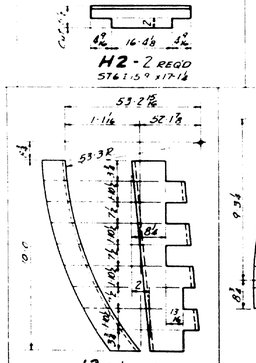


**H10** - 1 REQD
ST 61.59 x 21'-2¾"

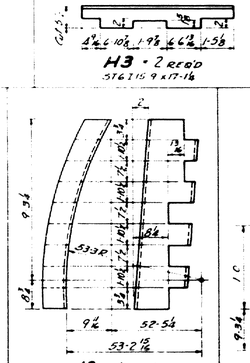
Shop to attach pieces F1, 3, 4, 5 & 6 to other more rigid members for safety in shipment.



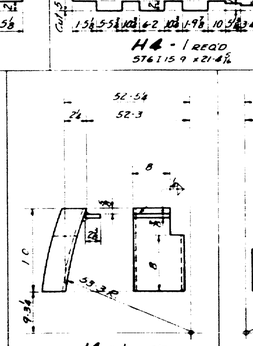
**J1** - 1 REQD
10 C 20



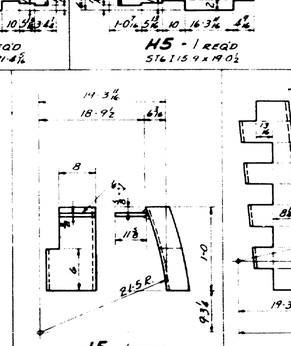
**J2** - 1 REQD
10 C 20



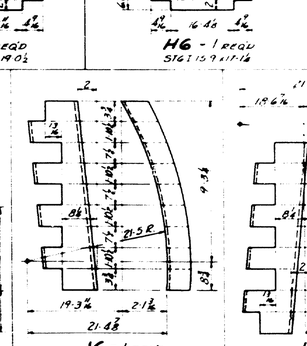
**J3** - 1 REQD.
10 C 20



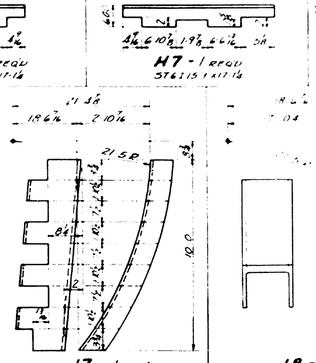
**J4** - 1 REQD
10 C 20 & 2½" x ⅜" FB x 0'-8"



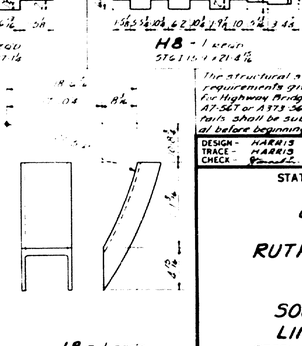
**J5** - 1 REQD
10 C 20 & 8" x ½" R x 0'-11⅝"



**J6** - 1 REQD
10 C 20



**J7** - 1 REQD
10 C 20



**J8** - 1 REQD
10 C 20

The structural steel for support and uniform to the requirements given in the AASHTO "Standard Specifications for Highway Bridges, 1957 and latest" and ASTM specifications A7-56T or A373-56T. Drawings and complete shop details shall be submitted by [illegible] for approval at least before beginning fabrication [illegible] as may be required.

| | | | |
|---|---|---|---|
| DESIGN - HARRIS | | | |
| TRACE - HARRIS | | | |
| CHECK - [illegible] | | | |

STATE HIGHWAY COMMISSION
BRIDGE DIVISION

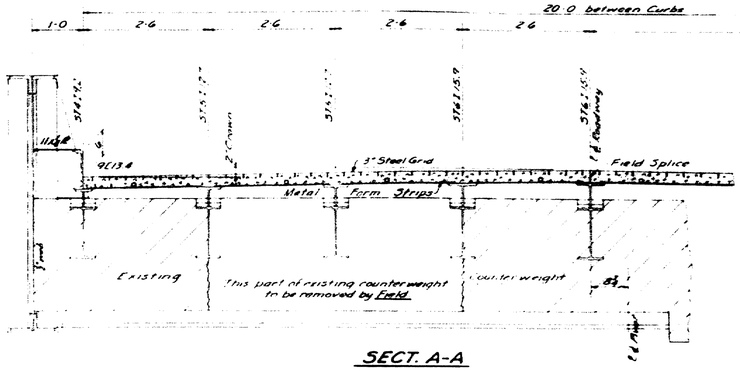
# GUT BRIDGE
BETWEEN
# RUTHERFORD ISLAND
AND
# MAINLAND
# SOUTH BRISTOL
# LINCOLN COUNTY
## STEEL GRID REFLOORING SUPPORTS

SHEET 2 OF 3 AUGUSTA, MAINE JULY 1958

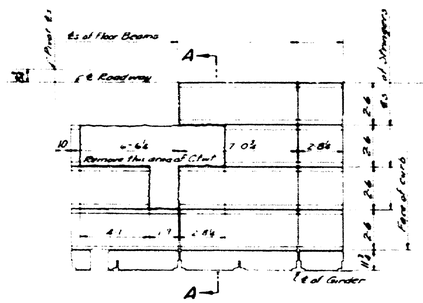
79-180

0 1 2 3 4 5 INCHES

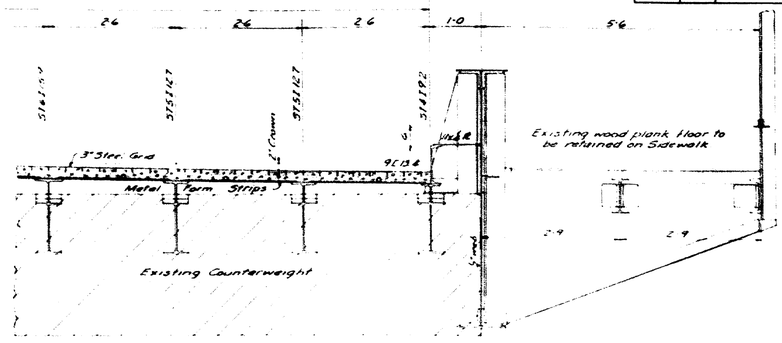
| B P R REG. NO | STATE | PROJECT NUMBER | SHEET NO | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | | | |



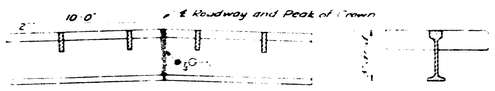

SECT. A-A




PART PLAN OF COUNTERWEIGHT

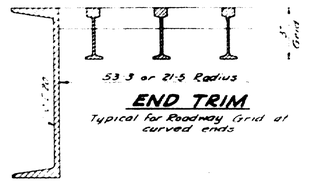



SECT. A-A

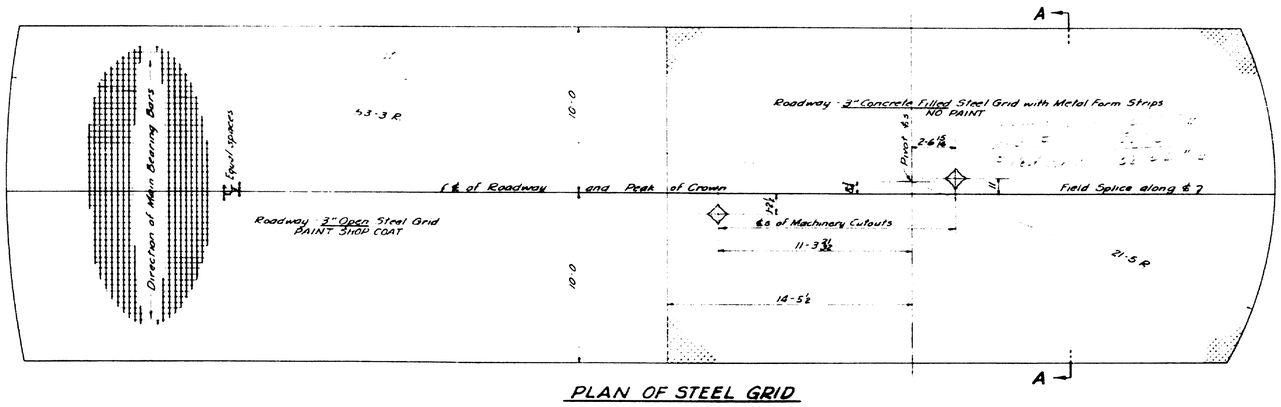



Shop to provide 3" Roadway Grid in continuous flat 10'-0" sections to be field spliced at ℄ of roadway, with manufacturers standard splice bars if normally furnished

## ROADWAY CROWN
(2" in 10'-0")

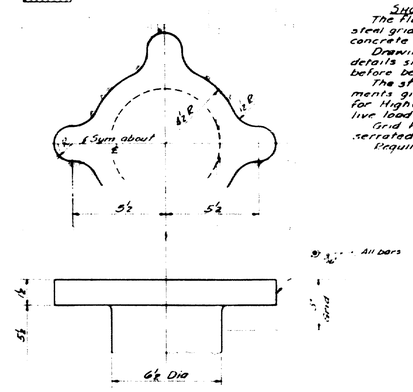



## END TRIM
Typical for Roadway Grid at curved ends




## PLAN OF STEEL GRID

FIELD NOTE:
Concrete Fill in steel grid floors shall conform to the requirements given in the AASHO Standard Specifications for Highway Bridges, 1957 for Class Y concrete.




## DETAIL OF MACHINERY CUTOUTS

FIELD NOTE:
1. Remove Capstan Shaft Guards before placing steel grid
2. Lay steel grid
3. Fit Guards in cutouts and weld as shown

SHOP NOTES
The floor manufacturer shall furnish a 3" thick steel grid flooring complete with metal form strips for concrete filled areas.
Drawings showing complete shop and assembly details shall be submitted by manufacturer for approval before beginning fabrication.
The steel grid flooring shall conform to the requirements given in the AASHO Standard Specifications for Highway Bridges, 1957 and shall be designed for a live loading of H15-44.
Grid flooring shall be furnished with top surface serrated.
Required - 1871 Sq. ft. of grid flooring

DESIGN - HARRIS
TRACE - HARRIS
CHECK - [illegible]

BRIDGE NO. 2339
SURVEY NO.

STATE HIGHWAY COMMISSION
BRIDGE DIVISION

# GUT BRIDGE
BETWEEN
# RUTHERFORD ISLAND
AND
# MAINLAND
# SOUTH BRISTOL
# LINCOLN COUNTY

STEEL GRID REFLOORING & COUNTERWEIGHT

SHEET 3 OF 8 AUGUSTA, MAINE JULY 1958

79-181

0 1 2 3 4 5 INCHES

CORPS OF ENGINEERS

U. S. ARMY

E2300 E2400 E2500 E2600 E2700 E2800

N27 00 N26 00 N25 00 N24 00 N23 00

N

THE GUT

ROUTE 129 TO DAMARISCOTTA

2 Telephone cables on existing bottom Owned by Nash Telephone Co., Damariscotta, Maine.

BUILDING ON TIMBER PILES

SWING BRIDGE
Hor. Cl. 31 Feet
Ver. Cl. 3 Feet

7-Ft. Depth Contour.

NOTE:
Material required to be removed under item 2 shown thus

6-Ft. Depth Contour

BUILDING ON TIMBER PILES

BUILDING ON TIMBER PILES

PROPOSED OVERHEAD WIRE CROSSING BY CENTRAL MAINE POWER CO.
Height of wire above channel to be not less than 60 feet above M.L.W.

NOTE:
Material required to be removed under item 2 shown thus

6-FT. CHANNEL

6-Ft. Depth Contour

7-Ft. Depth Contour

SPOIL DISPOSAL AREA
Material shall not be placed outside 6 foot contour
Existing spoil area to be spread during fall

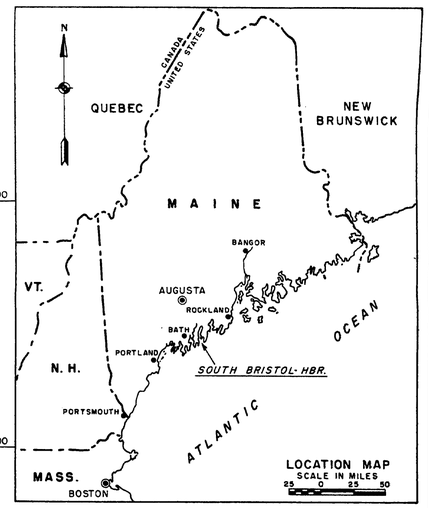
RUTHERFORD ISLAND

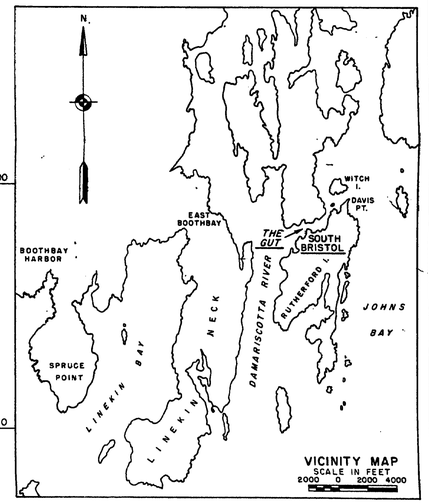
A-A

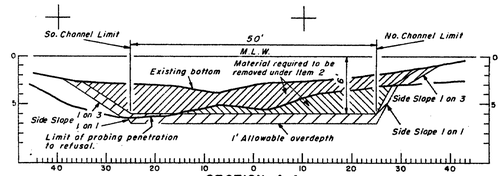
B-B

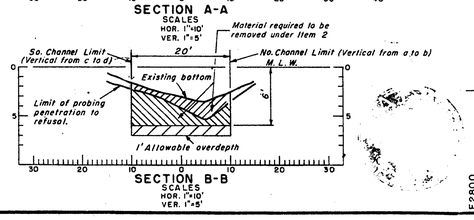
NOTES:
Soundings and probings are in feet and tenths and are referred to the plane of Mean Low Water.
Hydrography from survey of Jan. 11-29, 1962 by E. Byram.
B.M. 3(1943). Standard disk, stamped "No. 3 1943", set in block of concrete 3' by 3' in ground at N.W. corner of Nation Wide Store. Block of concrete is about 6" above ground and 65' N. of bridge. Elev. above M.L.W. is 14.76'. Levels run in May 1953 indicate that this B.M. apparently settled about 0.08' since it was established; above elevation is based on levels of May 13, 1953. Nation Wide Store above now vacant. B.M. is across from post office at E. Boothbay.
Field books: R.B.H. 1303, 1304 & 1305.
Probings were taken by hand, washed through 3/4" pipe.
Topography from previous surveys and subsequent field inspections.

LEGEND:
Sounding —— Refusal
Probing ——
Sounding —— Refusal not reached
Probing ——




| REVISION | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

U.S. ARMY ENGINEER DIVISION, NEW ENGLAND
CORPS OF ENGINEERS
WALTHAM, MASS.

| DR. BY | TR. BY | CK. BY |
|---|---|---|
| A.L.D. | A.L.D. | C.G.F. |

PROJECT ENGINEER

CHIEF, E & D SECTION

SUBMITTED BY
CHIEF, PLANS & SPT'S BRANCH

APPROVED
CHIEF ENGINEERING DIV.

# SOUTH BRISTOL HARBOR, MAINE
## REMOVAL OF UNCLASSIFIED MATERIAL
SCALE IN FEET
20 0 20 40 60

DATE AUGUST 1962

SCALE 1" = 20' SPEC. NO CIV ENG-19-016-63-9

DRAWING NUMBER
1528 D-6-2

SHEET 1

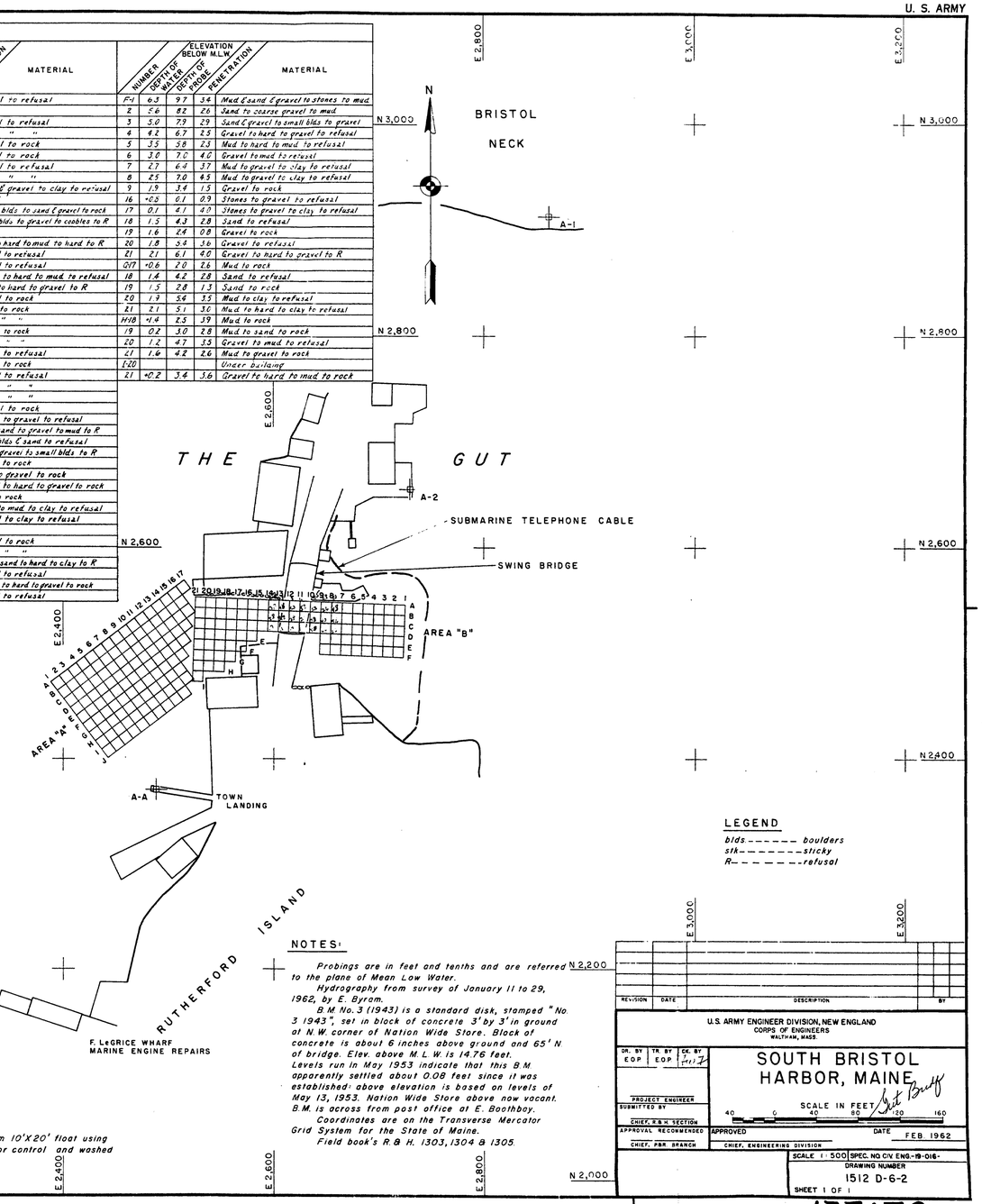
133:71

CORPS OF ENGINEERS

U. S. ARMY

## LIST OF PROBINGS

| NUMBER | ELEVATION BELOW M.L.W. DEPTH OF WATER | ELEVATION BELOW M.L.W. DEPTH OF PROBE | PENETRATION | MATERIAL |
|---|---|---|---|---|
| | | | | — AREA "A" — |
| A-1 | 4.1 | 5.9 | 1.8 | Gravel to cobbles to refusal |
| 2 | 3.8 | 5.5 | 1.7 | Small blds to refusal |
| 3 | 2.9 | 5.0 | 2.1 | Small blds to gravel to refusal |
| 4 | 2.3 | 4.5 | 2.2 | " " " " " " |
| 5 | 0.3 | 2.2 | 1.9 | Mud to rock |
| 6 | +2.0 | +2.0 | 0 | Ledge |
| 7 | 1.6 | 1.6 | 0 | " |
| 8 | 1.7 | 1.7 | 0 | " |
| 9 | 0.3 | 2.5 | 2.2 | Gravel to refusal |
| 10 | 0.8 | 2.8 | 2.0 | Gravel to stk mud to refusal |
| 11 | +1.4 | +1.4 | 0 | Rock |
| 12 | 0.9 | 0.9 | 0 | " |
| 13 | 1.8 | 2.0 | 0.2 | Sand to rock |
| 14 | 1.0 | 4.0 | 3.0 | Mud to refusal |
| 15 | 1.3 | 4.2 | 2.9 | Gravel to mud to refusal |
| 16 | 1.0 | 4.2 | 3.2 | Mud to clay to refusal |
| 17 | 1.0 | 2.4 | 1.4 | Mud to rock |
| B-1 | 4.8 | 5.8 | 1.0 | Small blds to refusal |
| 2 | 4.1 | 5.8 | 1.7 | Small blds to gravel to refusal |
| 3 | 3.9 | 6.1 | 2.2 | " " " " " " |
| 4 | 4.3 | 6.4 | 2.1 | " " " " " " |
| 5 | 3.6 | 4.4 | 0.8 | " " & " " " |
| 6 | 2.5 | 3.3 | 0.8 | Cobbles to rock |
| 7 | 2.1 | 3.6 | 1.5 | Small blds to gravel |
| 8 | 1.6 | 4.7 | 3.1 | " " " " to refusal |
| 9 | 1.4 | 2.9 | 1.5 | " " " " " " |
| 10 | 0.6 | 0.6 | 0 | Rock |
| 11 | 2.5 | 2.5 | 0 | " |
| 12 | 2.3 | 3.5 | 1.2 | Gravel to rock |
| 13 | 2.6 | 3.9 | 1.3 | Sand to hard to mud to refusal |
| 14 | 2.5 | 4.8 | 2.3 | Mud to hard to refusal |
| 15 | 1.7 | 3.4 | 1.5 | Stones to mud to rock |
| 16 | 1.5 | 2.6 | 1.1 | Mud to rock |
| 17 | 0.6 | 3.2 | 2.6 | Mud to rock |
| C-1 | 5.0 | 6.8 | 1.8 | Gravel to mud & sand to refusal |
| 2 | 4.8 | 5.8 | 1.0 | Gravel to refusal |
| 3 | 4.1 | 6.1 | 2.0 | Small blds to gravel to refusal |
| 4 | 4.2 | 6.4 | 2.2 | " " " " " " |
| 5 | 4.2 | 5.4 | 1.2 | " " " & " " " |
| 6 | 3.7 | 5.7 | 2.0 | Cobbles to gravel to refusal |
| 7 | 2.8 | 4.6 | 1.8 | Coarse gravel to refusal |
| 8 | 2.3 | 4.2 | 1.9 | Small blds to gravel to refusal |
| 9 | 2.1 | 3.3 | 1.2 | Stones & gravel to refusal |
| 10 | 2.4 | 4.6 | 2.2 | Gravel to refusal |
| 11 | 2.4 | 3.6 | 1.2 | Stony to sand & gravel to refusal |
| 12 | 2.5 | 4.7 | 2.2 | Sand & gravel to refusal |
| 13 | 2.7 | 4.2 | 1.5 | Stones to hard to mud to refusal |
| 14 | 2.4 | 4.3 | 1.9 | Small blds to mud to refusal |
| 15 | 2.3 | 3.7 | 1.4 | Stones to gravel to refusal |
| 16 | 1.2 | 3.6 | 2.4 | " " mud to rock |
| D-1 | 4.3 | 6.0 | 1.7 | Small blds to mud to refusal |
| 2 | 5.0 | 6.3 | 1.3 | " " " gravel & sand to refusal |
| 3 | 4.2 | 6.0 | 1.8 | " " " " " " |
| 4 | 5.0 | 6.7 | 1.7 | " " " " " " |
| 5 | 4.8 | 6.5 | 1.7 | Gravel to mud to refusal |
| 6 | 4.8 | 6.3 | 1.5 | Cobbles to sand to refusal |
| 7 | 3.2 | 3.9 | 0.7 | Sand & gravel to refusal |
| 8 | 2.7 | 4.2 | 1.5 | Gravel to refusal |
| 9 | 2.5 | 3.9 | 1.4 | Stones to gravel to refusal |
| 10 | 2.3 | 3.7 | 1.4 | Gravel to refusal |
| 11 | 2.2 | 4.3 | 2.1 | Stones to gravel to refusal |
| 12 | 2.4 | 3.6 | 1.2 | Coarse gravel to refusal |
| 13 | 3.0 | 4.2 | 1.2 | Sand to hard to mud to refusal |
| 14 | 2.7 | 4.2 | 1.5 | Sand to hard to refusal |
| 15 | 2.7 | 4.3 | 1.6 | Stones to gravel to mud to refusal |
| 16 | 2.2 | 2.7 | 0.5 | Stones to sand to rock |
| E-1 | 5.2 | 6.5 | 1.3 | Small blds to gravel to refusal |
| 2 | 4.8 | 6.6 | 1.8 | " " " " " " |
| 3 | 4.7 | 7.3 | 2.6 | " " " " " mud to refusal |
| 4 | 4.9 | 6.4 | 1.5 | Small blds to gravel to refusal |
| 5 | 5.3 | 6.1 | 0.8 | Cobbles to gravel to refusal |
| 6 | 5.3 | 8.3 | 3.0 | Gravel & sand & mud |
| 7 | 3.9 | 7.6 | 3.7 | Gravel to mud |
| 8 | 3.8 | 6.6 | 2.8 | Gravel to hard to mud to refusal |
| 9 | 2.7 | 5.6 | 2.9 | Gravel to mud & clay to refusal |
| 10 | 2.6 | 5.9 | 3.3 | Gravel to mud to sandy clay to refusal |
| 11 | 2.7 | 5.4 | 2.7 | Coarse gravel to sand & gravel to refusal |
| 12 | 2.9 | 5.1 | 2.2 | Stones to gravel to refusal |
| 13 | 3.1 | 5.1 | 2.0 | Sand to hard to mud to refusal |
| 14 | 2.9 | 4.6 | 1.7 | Sand to hard to refusal |
| 15 | 2.3 | 4.2 | 1.9 | Sand to hard to mud to refusal |
| F-1 | 5.3 | 6.2 | 0.9 | Small blds to gravel to refusal |
| 2 | 5.2 | 6.1 | 0.9 | " " " " " " |
| 3 | 5.2 | 7.5 | 2.3 | Small blds to sand & gravel to refusal |
| 4 | 5.4 | 8.3 | 2.9 | Sand & gravel to hard to mud to stk mud |
| 5 | 5.3 | 7.4 | 2.1 | Gravel & sand to refusal |
| 6 | 5.2 | 7.4 | 2.1 | Gravel & sand to rock |
| 7 | 4.6 | 7.7 | 3.1 | Coarse gravel to mud to refusal |
| 8 | 4.4 | 5.6 | 1.2 | Stones to coarse gravel refusal |
| 9 | 3.9 | 5.1 | 1.2 | Gravel to refusal |
| 10 | 3.5 | 7.2 | 3.7 | Gravel to mud & clay to refusal |
| 11 | 2.8 | 5.5 | 2.7 | Sand & gravel to refusal |
| 12 | 2.3 | 4.5 | 2.2 | " " " " " " |
| 13 | 2.3 | 5.2 | 2.9 | Gravel to hard to clay to refusal |
| 14 | 2.4 | 3.2 | 0.8 | Sand to hard to refusal |
| G-1 | 5.6 | 6.6 | 1.0 | Small blds to gravel to refusal |
| 2 | 5.1 | 6.2 | 1.1 | Gravel to refusal |
| 3 | 5.3 | 8.2 | 2.9 | Gravel to mud to refusal |
| 4 | 5.2 | 8.4 | 3.2 | " " to hard |
| 5 | 5.3 | 8.5 | 3.2 | Cobbles & gravel to mud to refusal |
| 6 | 5.3 | 7.8 | 2.5 | Gravel to mud to refusal |
| 7 | 3.9 | 6.8 | 2.9 | Mud to gravel to mud to refusal |
| 8 | 4.0 | 5.4 | 1.4 | Gravel to rock |
| 9 | 3.0 | 6.2 | 3.2 | Mud to clay to refusal |
| 10 | 2.8 | 6.0 | 3.2 | Mud to stones to clay to refusal |
| 11 | 2.2 | 5.4 | 3.2 | Mud to stones to clay to refusal |
| H-1 | 5.3 | 7.1 | 1.8 | Mud & sand to refusal |
| 2 | 5.2 | 8.3 | 3.1 | Gravel to mud |
| 3 | 5.2 | 8.3 | 3.1 | Sand to mud |
| 4 | 4.6 | 8.4 | 3.8 | Sand & gravel to hard to mud |
| 5 | 4.8 | 9.5 | 4.7 | " " " " mud & gravel |
| 6 | 4.5 | 8.2 | 3.7 | Cobbles & gravel to mud to rock |
| 7 | 3.6 | 8.0 | 4.4 | Mud to gravel to mud & clay |
| 8 | 3.4 | 4.9 | 1.5 | Mud & sand rock |
| 9 | 2.9 | 6.4 | 3.5 | Gravel to hard to clay to refusal |
| 10 | 2.7 | 5.8 | 3.1 | Gravel to refusal |
| 11 | 2.2 | 4.3 | 2.1 | Mud & sand to clay to refusal |
| 12 | 1.9 | 4.7 | 2.8 | Gravel to refusal |
| H-1 | 4.9 | 8.4 | 3.5 | Sand to mud |
| 2 | 4.9 | 8.7 | 3.8 | Sand to mud to clay |
| 3 | 5.1 | 8.0 | 2.9 | Mud |
| 4 | 5.0 | 8.4 | 3.4 | Mud to hard Mud to clay |
| 5 | 4.6 | 5.3 | 2.7 | Coarse gravel to refusal |
| 6 | 2.4 | 4.6 | 2.2 | Gravel to refusal |
| 7 | 1.9 | 4.9 | 3.0 | Sand to mud to refusal |
| 8 | 1.7 | 4.0 | 2.3 | Gravel to refusal |
| 9 | 1.2 | 4.5 | 3.3 | Small blds to gravel to refusal |
| 10 | 1.4 | 1.5 | 0.1 | Gravel to rock |
| 11 | 0.7 | 1.5 | 0.8 | Sand to rock |
| 12 | +0.2 | 0.4 | 0.6 | " " " |
| 13 | +0.2 | 0.1 | 0.3 | Gravel to rock |
| 14 | 0.0 | 0.7 | 0.7 | |
| 15 | 1.0 | 2.5 | 1.5 | Gravel to refusal |
| 16 | 2.2 | 3.8 | 1.6 | Gravel to rock |
| 17 | 2.4 | 3.9 | 1.5 | Gravel to refusal |
| 18 | 2.4 | 3.6 | 1.2 | " " " |
| 19 | 2.7 | 3.8 | 1.1 | " " " |
| 20 | 2.8 | 4.3 | 1.5 | Gravel to rock |
| 21 | 2.8 | 3.8 | 1.0 | Stones to gravel to refusal |
| E-1 | 6.7 | 8.5 | 1.8 | Mud & sand to gravel to mud to R |
| 2 | 5.8 | 7.0 | 1.2 | Small blds & sand to refusal |
| 3 | 5.1 | 6.5 | 1.4 | Sand & gravel to small blds to R |
| 4 | 4.0 | 7.0 | 3.0 | Gravel to rock |
| 5 | 3.5 | 4.0 | 0.5 | Mud to gravel to rock |
| 6 | 3.1 | 5.7 | 2.6 | Gravel to hard to gravel to rock |
| 7 | 3.0 | 4.1 | 1.1 | Mud to rock |
| 8 | 3.4 | 6.1 | 0.7 | Hard to mud to clay to refusal |
| 9 | 2.4 | 6.0 | 3.6 | Gravel to clay to refusal |
| 10 | +5.0 | +5.0 | 0 | Rock |
| 11 | 0.3 | 1.0 | 0.7 | Gravel to rock |
| 12 | 1.7 | 2.6 | 0.9 | " " " |
| 13 | 1.9 | 5.0 | 3.1 | Mud & sand to hard to clay to R |
| 14 | 1.9 | 4.8 | 2.9 | Gravel to refusal |
| 15 | 2.1 | 4.0 | 1.9 | Gravel to hard to gravel to rock |
| 16 | 2.5 | 3.5 | 1.0 | Gravel to refusal |
| | | | | — AREA "B" — |
| A-1 | 8.9 | | | Grade |
| 2 | 4.8 | 4.5 | 0.1 | Gravel to refusal |
| 3 | 3.0 | 3.4 | 0.4 | Gravel to refusal |
| 4 | 2.7 | 3.6 | 0.9 | Mud to rock |
| 5 | 2.2 | 3.8 | 1.6 | Stones to gravel to rock |
| 6 | 1.3 | 3.0 | 1.7 | Gravel to refusal |
| 7 | 2.1 | 4.5 | 2.4 | Stones to gravel to refusal |
| 8 | 1.7 | 5.1 | 3.4 | Stones to hard to clay to refusal |
| 9 | 0.8 | 1.8 | 1.0 | Stones to gravel to rock |
| 10 | 1.2 | 4.5 | 3.3 | Small blds to gravel to refusal |
| 11 | 1.4 | 1.5 | 0.1 | Gravel to rock |
| 12 | 0.7 | 0.8 | 0.1 | Gravel to refusal |
| 13 | +0.6 | +0.6 | 0 | Gravel to rock |
| B-1 | 6.3 | 9.1 | 2.8 | Mud & sand to gravel |
| 2 | 4.6 | 5.9 | 1.3 | Small blds to mud to rock |
| 3 | 3.3 | 3.7 | 0.4 | Gravel to rock |
| 4 | 3.2 | 4.1 | 0.9 | Mud to gravel to rock |
| 5 | 3.3 | 3.7 | 0.4 | Sand to rock |
| 6 | 2.6 | 2.9 | 0.3 | Gravel to refusal |
| 7 | 2.0 | 2.4 | 0.4 | " " " |
| C-1 | 6.3 | 9.1 | 2.8 | Mud & sand to gravel |
| 2 | 4.6 | 5.9 | 1.3 | Small blds to mud to rock |
| 3 | 3.3 | 3.7 | 0.4 | Gravel to rock |
| 4 | 3.2 | 4.1 | 0.9 | Mud to gravel to rock |
| 5 | 3.2 | 3.5 | 0.3 | Sand to rock |
| 6 | 2.6 | 2.9 | 0.3 | Gravel to refusal |
| 7 | 2.4 | 2.9 | 0.5 | Gravel to rock |
| 8 | 2.2 | 4.8 | 2.6 | Gravel to hard to clay to refusal |
| 9 | 2.6 | 2.6 | 0 | Rock |
| 10 | 3.2 | 5.3 | 2.1 | Gravel to mud to clay to refusal |
| 11 | 3.4 | 5.3 | 1.9 | Gravel to mud to clay to refusal |
| 12 | 3.1 | 5.3 | 2.2 | Gravel & stones to refusal |
| 13 | 3.6 | 4.6 | 1.0 | Gravel to refusal |
| 14 | 2.3 | 3.7 | 1.4 | Small blds to refusal |
| 15 | 2.9 | 3.5 | 0.6 | Gravel to refusal |
| 16 | 2.7 | 3.6 | 0.9 | " " " |
| 17 | 2.7 | 2.9 | 0.2 | Gravel to rock |
| 18 | 2.7 | 3.0 | 0.3 | " " " |
| 19 | 2.1 | 2.8 | 0.7 | Gravel to refusal |
| 20 | 2.1 | 2.8 | 0.8 | " " " |
| 21 | 2.8 | 2.8 | 1.0 | Stones to gravel to rock |
| C-1 | 8.0 | | | Grade |
| 2 | 6.3 | 9.1 | 2.8 | Mud & sand to gravel |
| 3 | 4.6 | 5.9 | 1.3 | Small blds to mud to rock |
| 4 | 3.3 | 3.7 | 0.4 | Gravel to rock |
| 5 | 3.2 | 4.1 | 0.9 | Mud to gravel to rock |
| 6 | 3.0 | 3.5 | 0.5 | Sand to rock |
| 7 | 2.4 | 2.9 | 0.5 | Gravel to rock |
| 8 | 2.9 | 3.6 | 0.7 | Gravel to refusal |
| 9 | 2.8 | 4.0 | 1.2 | Mud to gravel to refusal |
| 10 | 3.3 | 3.3 | 0 | Rock |
| 11 | 2.6 | 2.9 | 0.3 | Gravel to refusal |
| 12 | 2.0 | 2.4 | 0.4 | " " " |
| F-1 | 6.3 | 9.7 | 3.4 | Mud & sand & gravel to stones to mud |
| 2 | 5.6 | 8.2 | 2.6 | Sand to coarse gravel to mud |
| 3 | 5.0 | 7.9 | 2.9 | Sand & gravel to small blds to gravel |
| 4 | 4.2 | 6.7 | 2.5 | Gravel to hard to gravel to refusal |
| 5 | 3.5 | 5.8 | 2.3 | Mud to hard to mud to refusal |
| 6 | 3.0 | 7.0 | 4.0 | Gravel to mud to refusal |
| 7 | 2.7 | 6.4 | 3.7 | Mud to gravel to clay to refusal |
| 8 | 2.5 | 7.0 | 4.5 | Mud to gravel to clay to refusal |
| 9 | 1.9 | 3.4 | 1.5 | Gravel to rock |
| 10 | +0.3 | 0.1 | 0.9 | Stones to gravel to refusal |
| 11 | 0.1 | 4.1 | 4.0 | Stones to gravel to clay to refusal |
| 12 | 1.5 | 4.3 | 2.8 | Sand to refusal |
| 13 | 1.6 | 2.4 | 0.8 | Gravel to rock |
| 14 | 1.8 | 5.4 | 3.6 | Gravel to refusal |
| 15 | 2.1 | 6.1 | 4.0 | Gravel to hard to gravel to R |
| G-1 | +0.6 | 2.0 | 2.6 | Mud to rock |
| 2 | 1.4 | 4.2 | 2.8 | Sand to refusal |
| 3 | 1.3 | 2.8 | 1.5 | Sand to rock |
| 4 | 1.9 | 5.4 | 3.5 | Mud to clay to refusal |
| 5 | 2.1 | 5.1 | 3.0 | Mud to hard to clay to refusal |
| H-1 | +1.4 | 2.5 | 3.9 | Mud to rock |
| 2 | 0.2 | 3.0 | 2.8 | Mud to sand to rock |
| 3 | 1.2 | 4.7 | 3.5 | Gravel to mud to refusal |
| 4 | 1.0 | 4.2 | 2.6 | Mud to gravel to rock |
| I-1 | | | | Under Bulkhead |
| 2 | +0.2 | 3.4 | 3.6 | Gravel to hard to mud to rock |




**NOTE:**

*Probings taken from 10'X20' float using ranges and tag line for control and washed through 3/4" pipe.*

**LEGEND**

*blds ------ boulders*
*stk ------ sticky*
*R ------ refusal*

**NOTES:**

*Probings are in feet and tenths and are referred to the plane of Mean Low Water.*

*Hydrography from survey of January 11 to 29, 1962, by E. Byram.*

*B.M. No. 3 (1943) is a standard disk, stamped "No. 3 1943", set in block of concrete 3' by 3' in ground at N.W. corner of Nation Wide Store. Block of concrete is about 6 inches above ground and 65' N. of bridge. Elev. above M.L.W. is 14.76 feet. Levels run in May 1953 indicate that this B.M. apparently settled about 0.08 feet since it was established; above elevation is based on levels of May 13, 1953. Nation Wide Store above now vacant. B.M. is across from post office at E. Boothboy.*

*Coordinates are on the Transverse Mercator Grid System for the State of Maine.*

*Field book's R.B.H. 1303, 1304 & 1305.*

U.S. ARMY ENGINEER DIVISION, NEW ENGLAND
CORPS OF ENGINEERS
WALTHAM, MASS.

| DR. BY | TR. BY | CK. BY |
|---|---|---|
| E.O.P. | E.O.P. | J.J.F. |

PROJECT ENGINEER
SUBMITTED BY
CHIEF, R.B.H. SECTION
APPROVAL RECOMMENDED
CHIEF, PBR BRANCH

# SOUTH BRISTOL HARBOR, MAINE

SCALE IN FEET 40 0 40 80 120 160

APPROVED Jet Bueff DATE FEB. 1962
CHIEF, ENGINEERING DIVISION

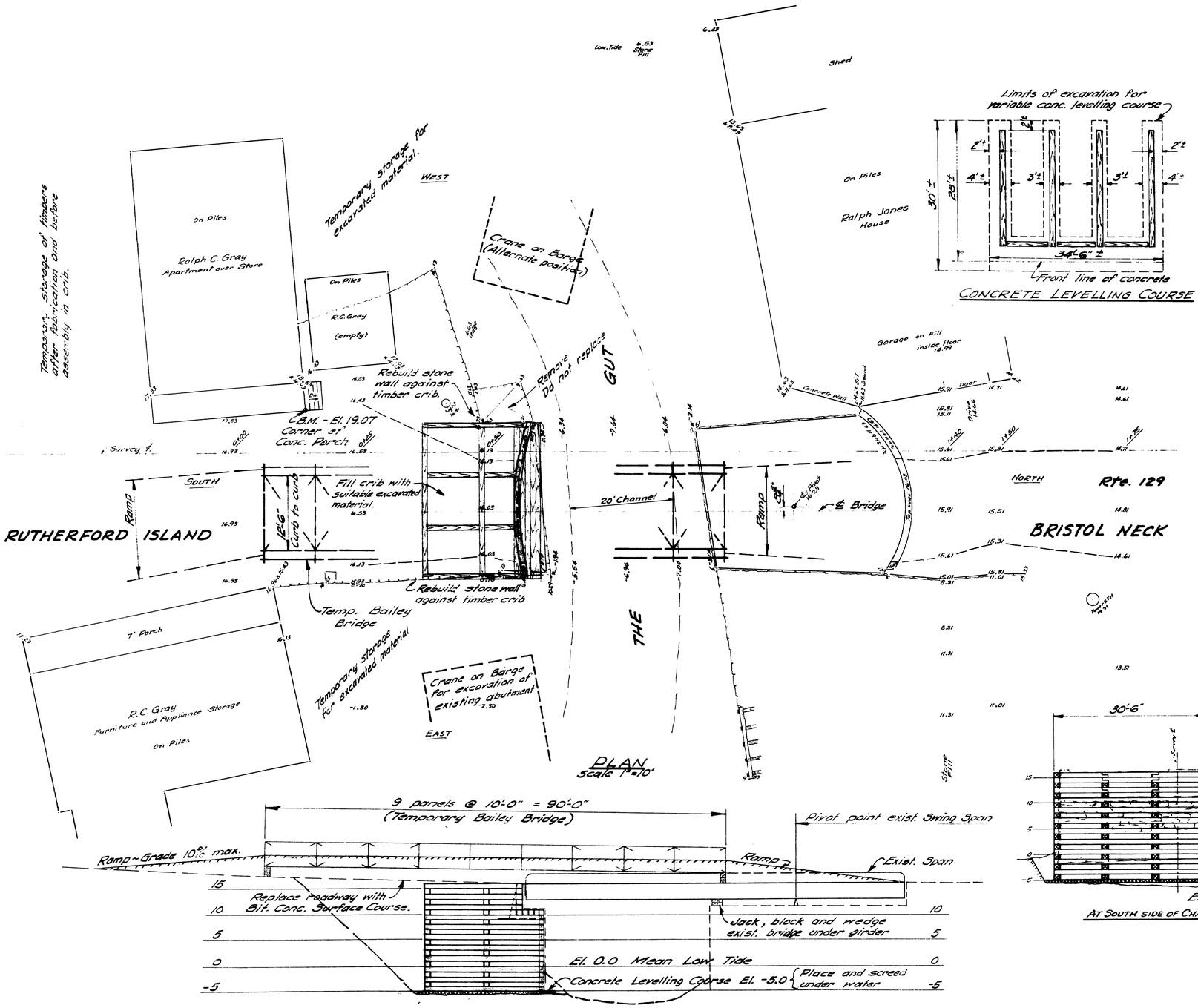
SCALE 1" = 500' | SPEC. NO. CIV. ENG.-19-016-
DRAWING NUMBER
1512 D-6-2
SHEET 1 OF 1

| REVISION | DATE | DESCRIPTION | BY |
|---|---|---|---|

133:72

MODERN BLUEPRINT CO. BOSTON, MASS.

| B. P. R. REG. NO. | STATE | PROJECT NUMBER | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | | | |




INDEX of SHEETS


| Sheet No. | Description |
|---|---|
| 1 | Survey |
| 2 | Layout Dimensions |
| 3 | Abutments |
| 4 | Plan of Pile |
| 5 | Elev. -4.0 and -3.0 |
| 6 | Elev. -2.0, -1.0, 0.0, 1.0 and 5.0 |
| 7 | Elev. 2.0 and 3.0 |
| 8 | Elev. 4.0, 6.0 and 7.0 |
| 9 | Elev. 8.0 and 9.0 |
| 10 | Elev. 10.0 and 11.0 |
| 11 | Elev. 12.0 and 13.0 |
| 12 | Elev. 14.0 and 15.0 |
| 13 | Elev. 16.0 |
| 14 | Structural Steel |
| 15 | Timber Schedule |


DESIGN- HARRIS
TRACE-
CHECK-

BRIDGE NO. 2239
SURVEY-
PLOT-

STATE HIGHWAY COMMISSION
BRIDGE DIVISION

# GUT BRIDGE

IN THE TOWN OF

# SOUTH BRISTOL
# LINCOLN COUNTY

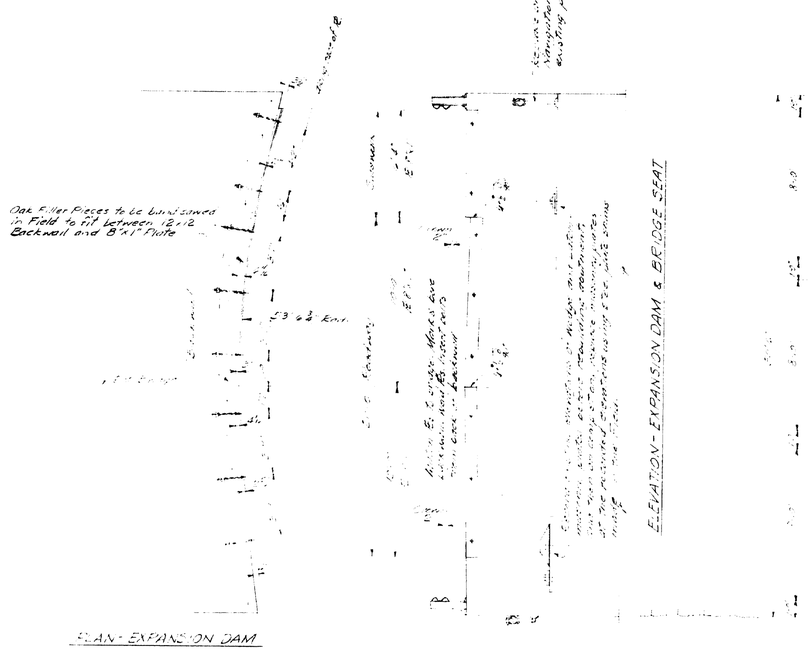
SURVEY

SHEET 1 OF 15 AUGUSTA, MAINE [redacted] JUNE 1963

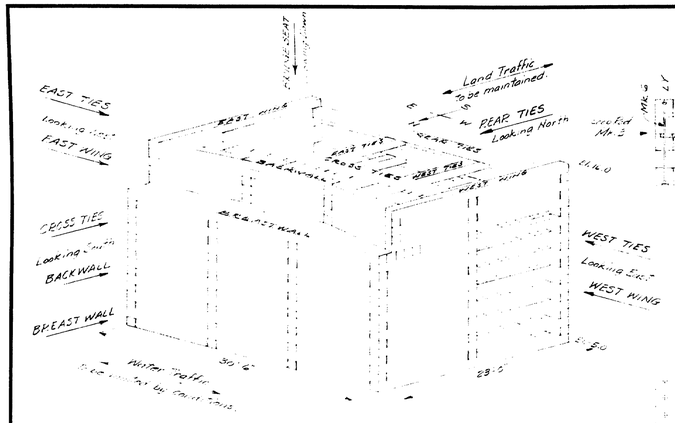
C. B. CO., NO. 3788 19747

0 1 2 3 4 5 INCHES

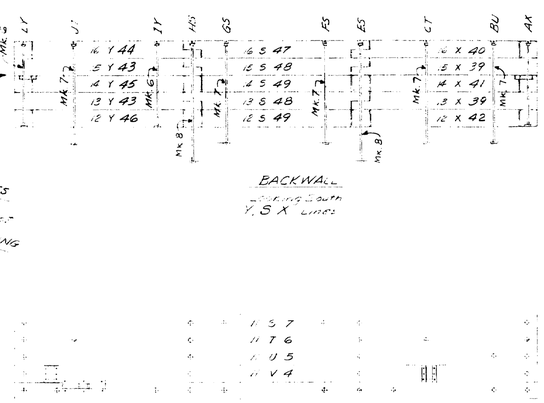
| B. P. R. REG. NO. | STATE | PROJECT NUMBER | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | | | |


Oak Filler Pieces to be hand sawed in Field to fit between 12x12 Backwall and 8"x1" Plate
Existing Stone Masonry
Existing Bridge Seat
Existing Concrete Wall
Existing Stone Masonry
Existing Concrete Wall
Existing Bridge Seat

| B. P. R. REG. NO. | STATE | PROJECT NUMBER | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | | | |



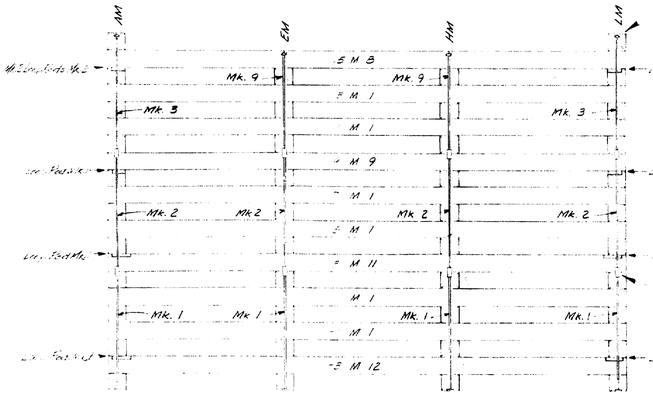

ASSEMBLY



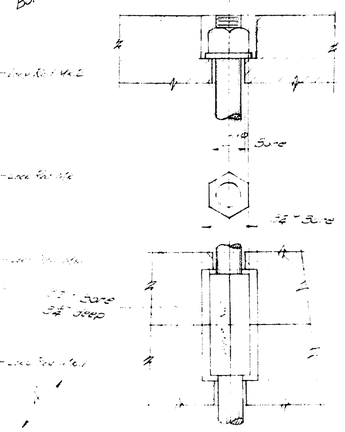
BACKWALL
Looking South
Y, S X Lines

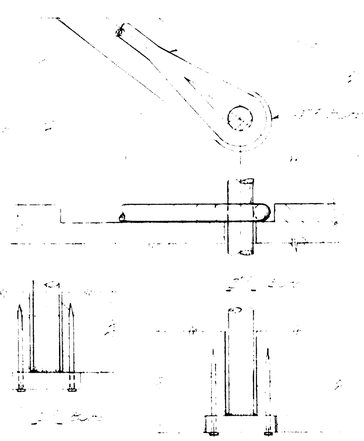


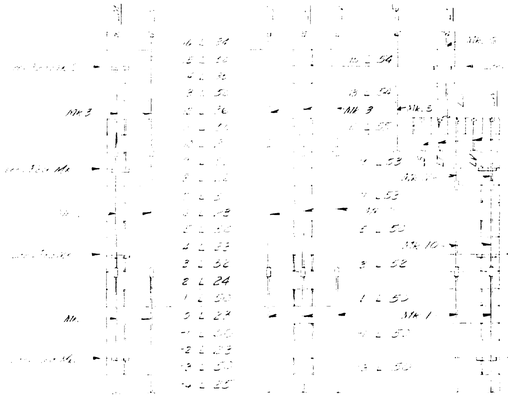
BRIDGE SEAT
Looking Down
S T U V Lines



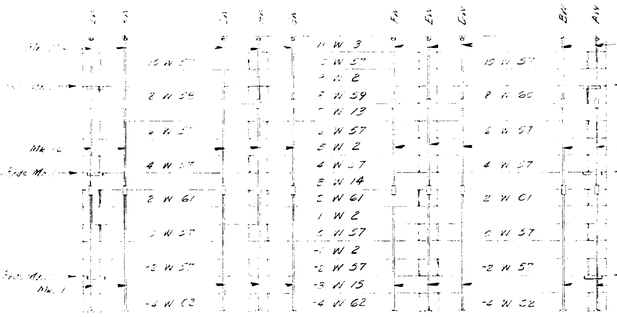
REAR TIES
Looking North
M Line



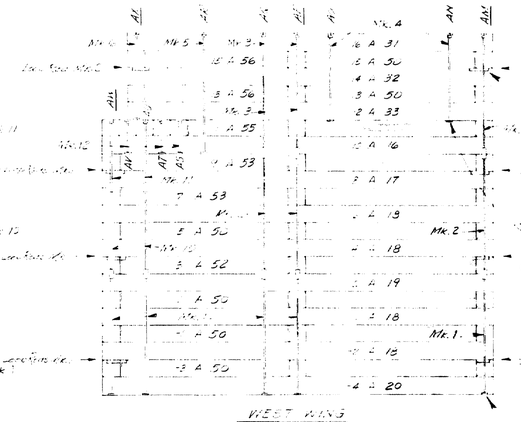





EAST WING
Looking East
L Line

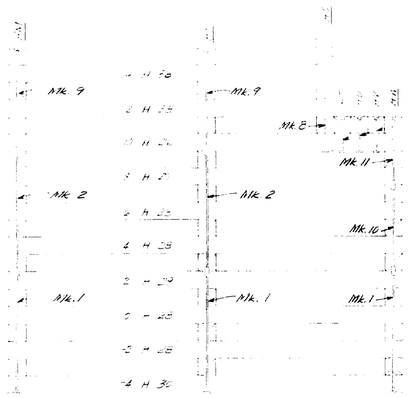


BREAST WALL
Looking South
W Line

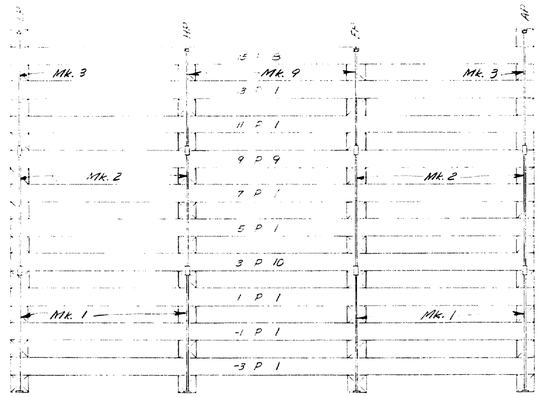


WEST WING
Looking East
A Line

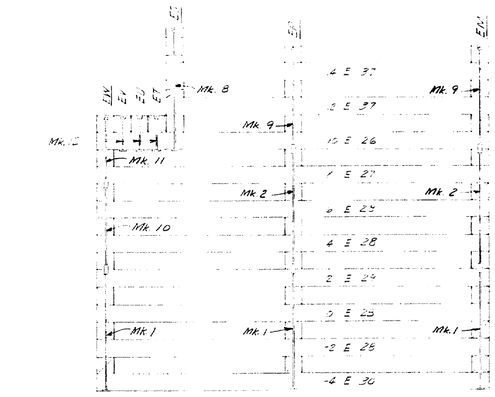




EAST TIES
Looking West
H Line



CROSS TIES
Looking South
P Line



WEST TIES
Looking East
E Line

| DESIGN– | BRIDGE NO. 5339 |
|---|---|
| TRACE– | SURVEY– |
| CHECK– | PLOT– |

STATE HIGHWAY COMMISSION
BRIDGE DIVISION

# GUT BRIDGE

IN THE TOWN OF

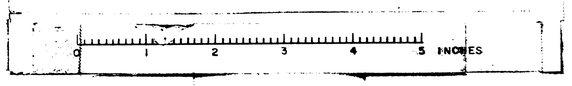
# SOUTH BRISTOL
# LINCOLN COUNTY

ASSEMBLY

SHEET 3 OF 15 AUGUSTA, MAINE SEPT. 1963

C. B. CO., NO. 46-302

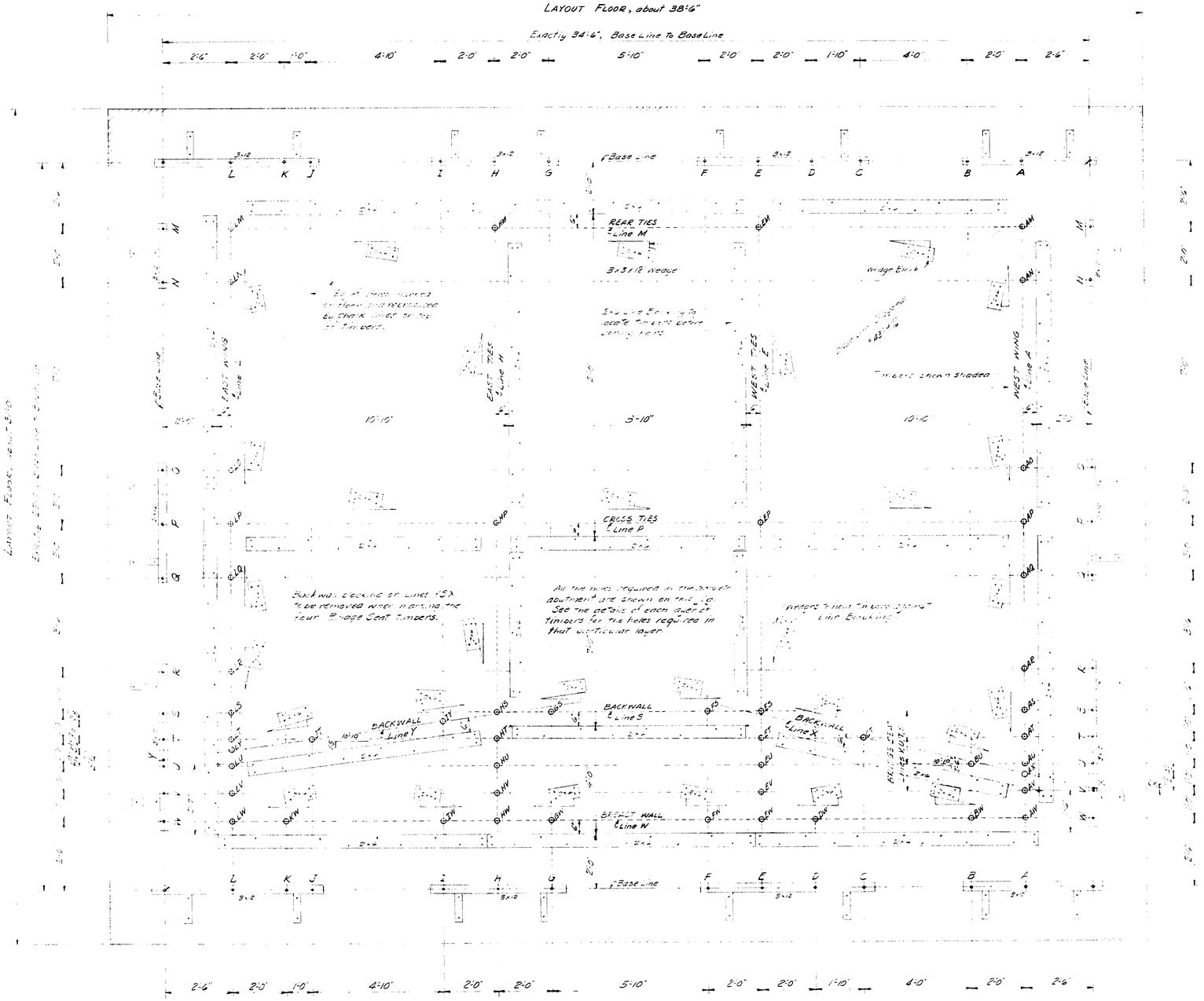
91-87



| B. P. R. REG. NO. | STATE | PROJECT NUMBER | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | | | |

LAYOUT FLOOR, about 38'-6"

Exactly 34'-6", Base Line to Base Line




PLAN OF JIG FOR LOCATING HOLES IN 12x12 TIMBERS

Scale: 1/2" = 1'-0"

| DESIGN– TRACE– CHECK– | BRIDGE NO. 2339 SURVEY– PLOT– |
|---|---|

STATE HIGHWAY COMMISSION
BRIDGE DIVISION

# GUT BRIDGE

IN THE TOWN OF

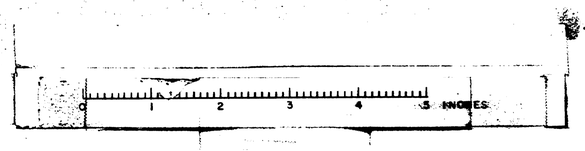
# SOUTH BRISTOL
# LINCOLN COUNTY

PLAN OF JIG

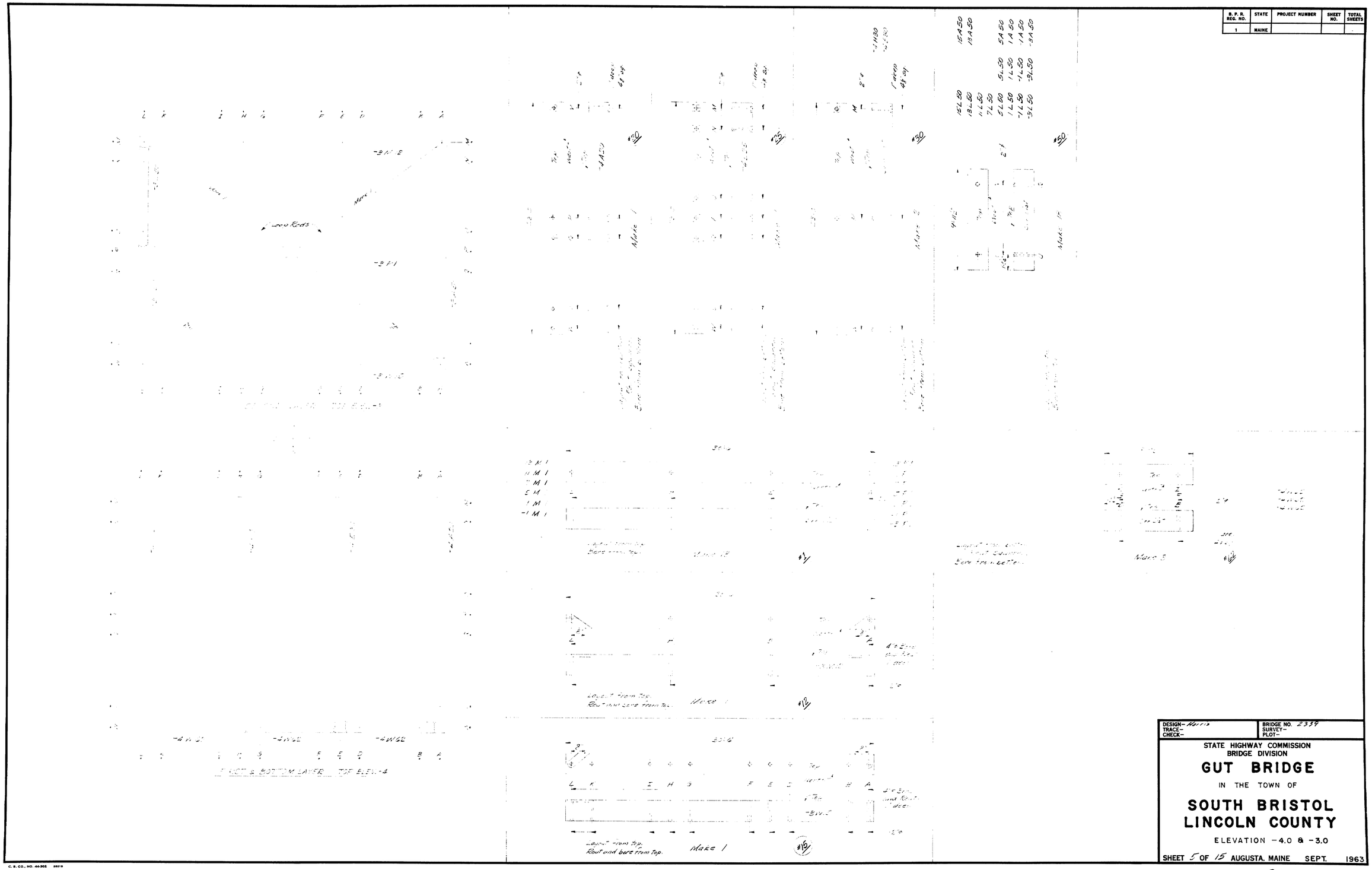
SHEET 4 OF 15 AUGUSTA, MAINE SEPT. 1963

C. B. CO., NO. 46-302

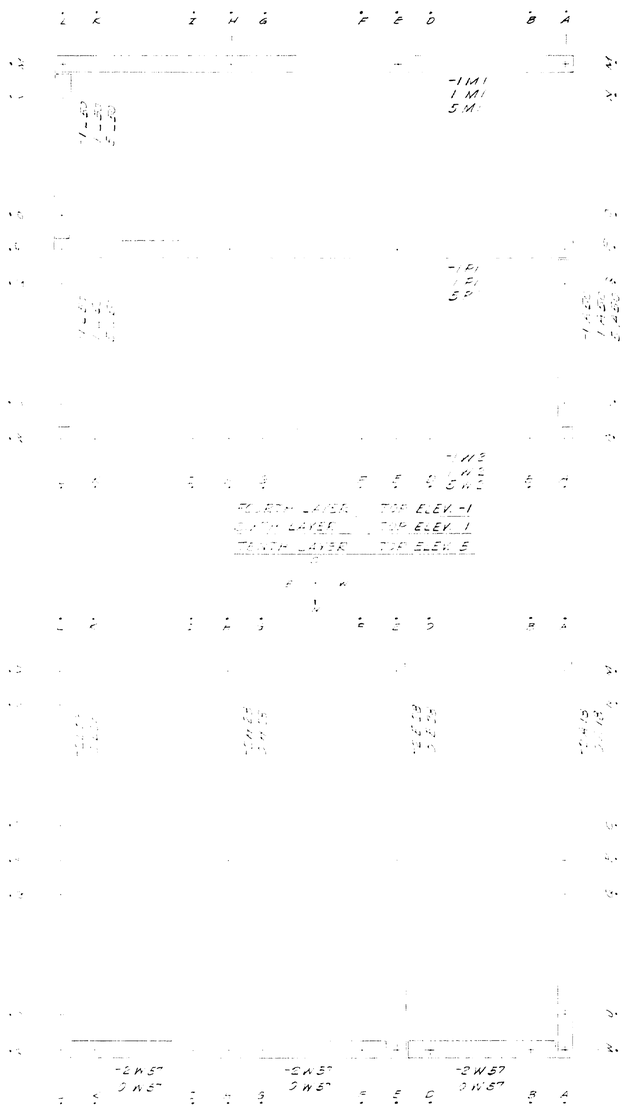
91-88

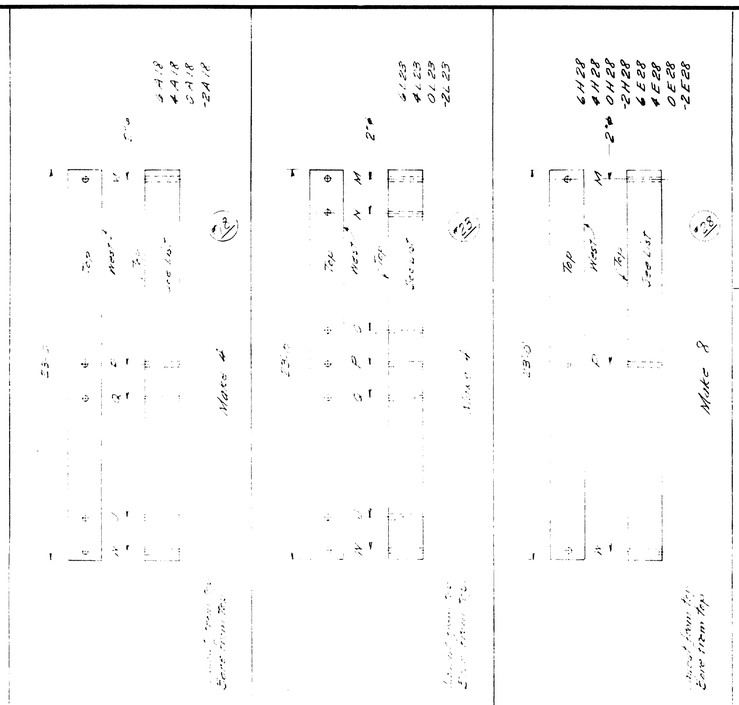


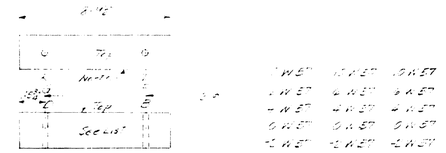
| B. P. R. REG. NO. | STATE | PROJECT NUMBER | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | | | |



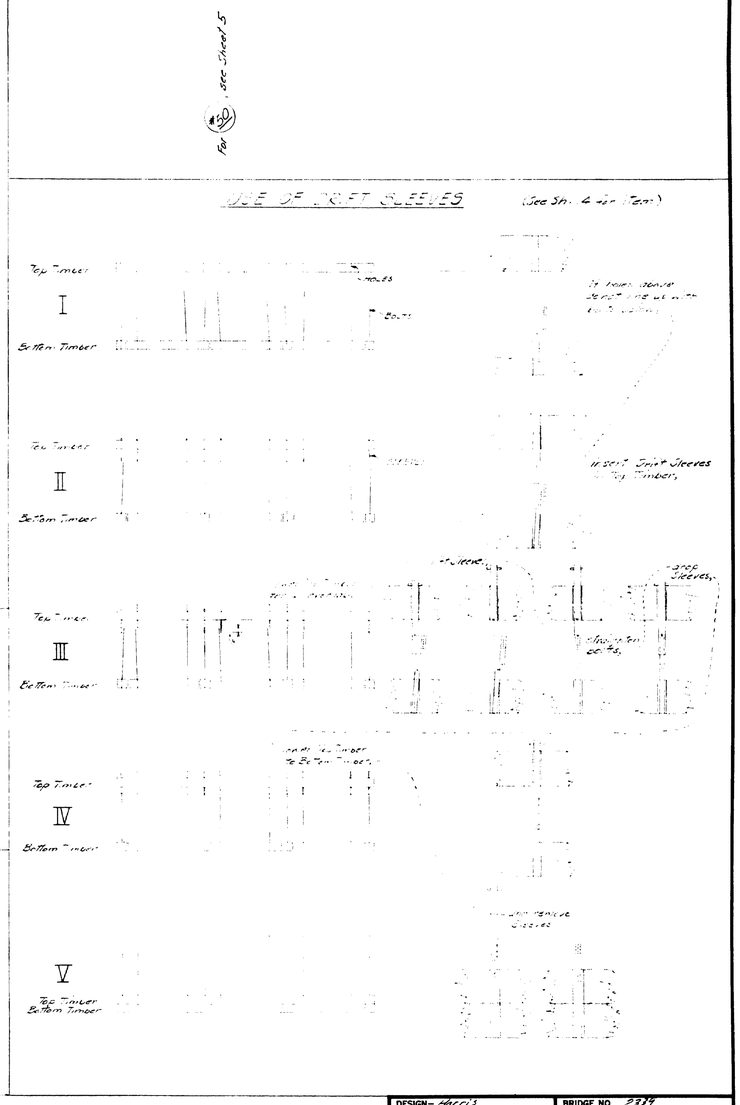
| B. P. R. REG. NO. | STATE | PROJECT NUMBER | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | | | |






For (A1), see Sheet 5




DESIGN- Harris
TRACE-
CHECK-

BRIDGE NO. 2379
SURVEY-
PLOT-

STATE HIGHWAY COMMISSION
BRIDGE DIVISION

# GUT BRIDGE

IN THE TOWN OF

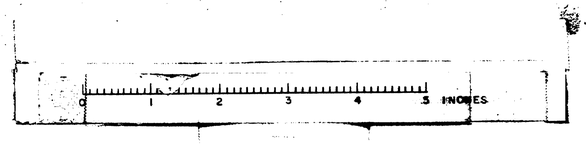
# SOUTH BRISTOL
# LINCOLN COUNTY

ELEVATION -2.0, -1.0, 0.0, 1.0 & 5.0

SHEET 6 OF 15 AUGUSTA, MAINE SEPT. 1963

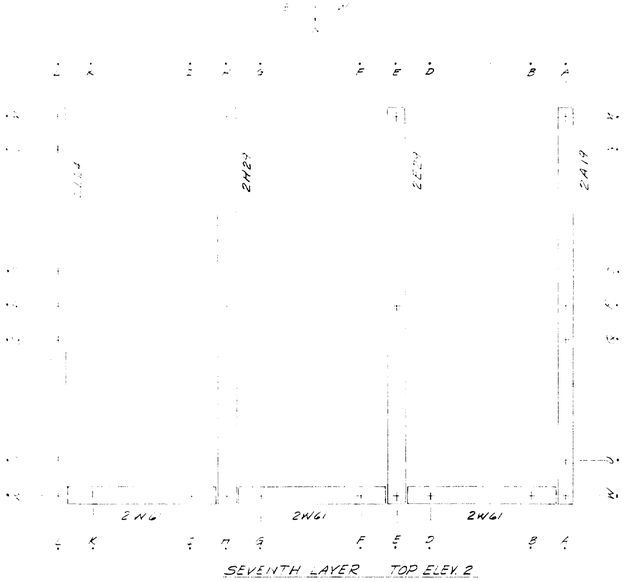
C. B. CO., NO. 46-302 55618

91-90

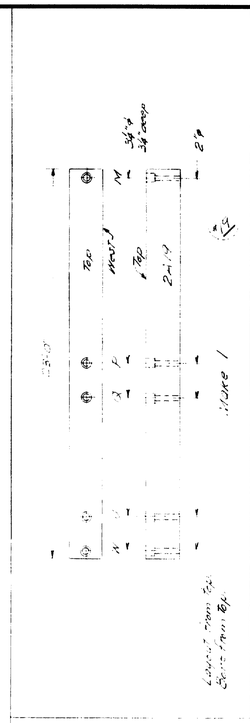


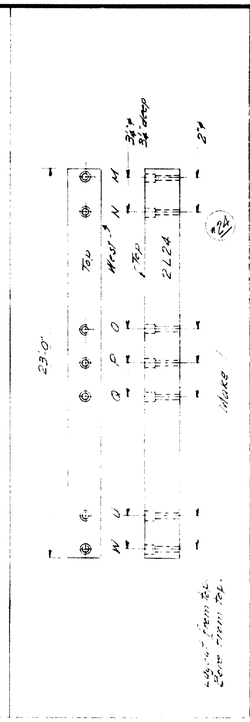
| B. P. R. REG. NO. | STATE | PROJECT NUMBER | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | | | |

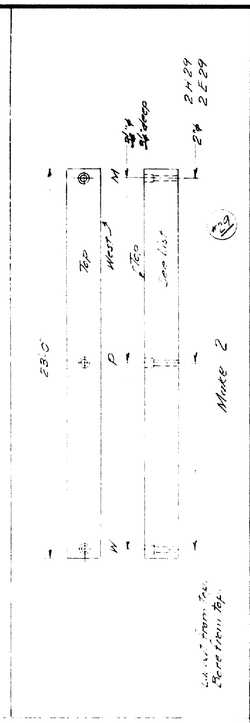
EIGHTH LAYER TOP ELEV. 3

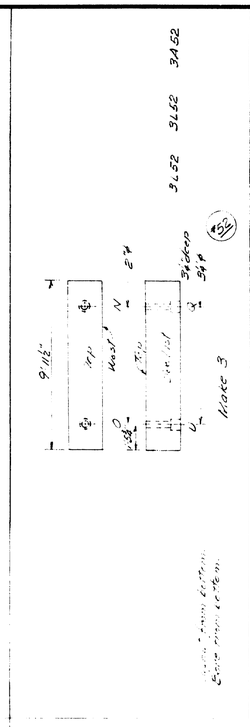


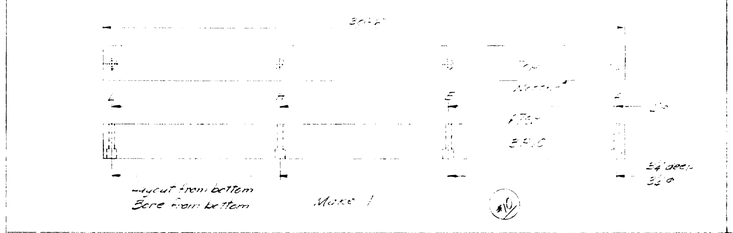

SEVENTH LAYER TOP ELEV. 2

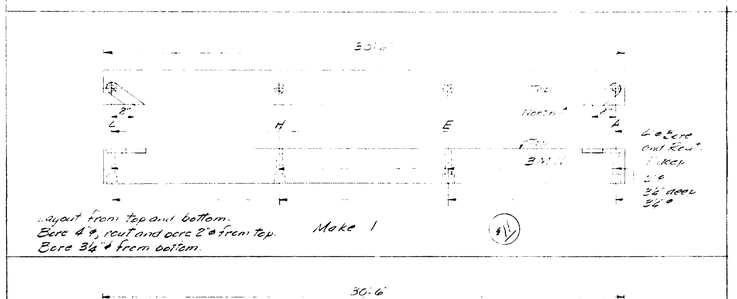


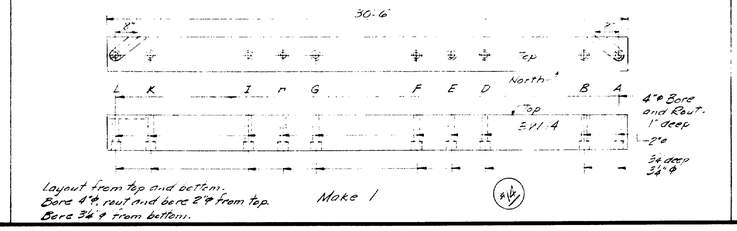



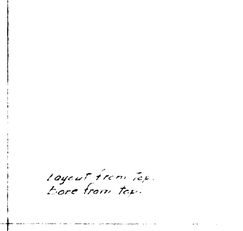




| DESIGN– |
|---|
| TRACE– |
| CHECK– |

| BRIDGE NO. 2339 |
|---|
| SURVEY– |
| PLOT– |

STATE HIGHWAY COMMISSION
BRIDGE DIVISION

# GUT BRIDGE

IN THE TOWN OF

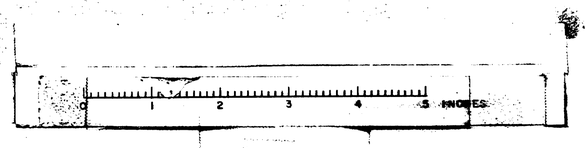
# SOUTH BRISTOL
# LINCOLN COUNTY

ELEVATION 2.0 & 3.0

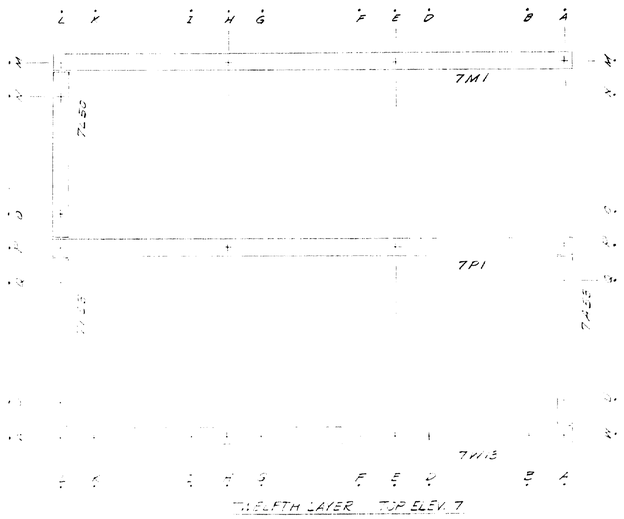
SHEET 7 OF 15 AUGUSTA, MAINE SEPT. 1963

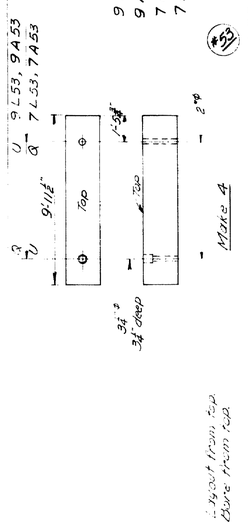
91-91

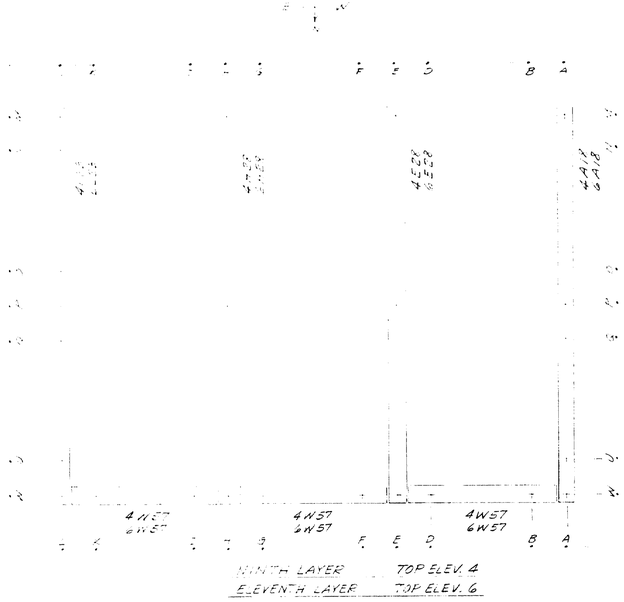
C. B. CO., NO. 44-302 25516

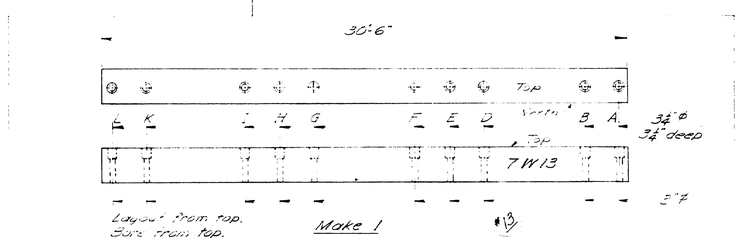


| B. P. R. REG. NO. | STATE | PROJECT NUMBER | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | | | |




For (1) see sheet 5.

For (57) see sheet 6.

| DESIGN– Harris | BRIDGE NO. 2339 |
|---|---|
| TRACE– | SURVEY– |
| CHECK– | PLOT– |

STATE HIGHWAY COMMISSION
BRIDGE DIVISION

# GUT BRIDGE

IN THE TOWN OF

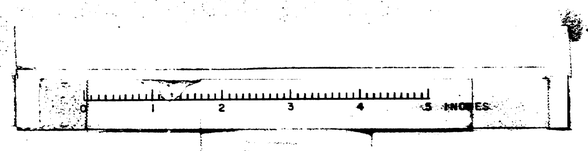
## SOUTH BRISTOL
## LINCOLN COUNTY

ELEVATION 4.0, 6.0 & 7.0

SHEET 8 OF 15 AUGUSTA, MAINE SEPT. 1963

91-92

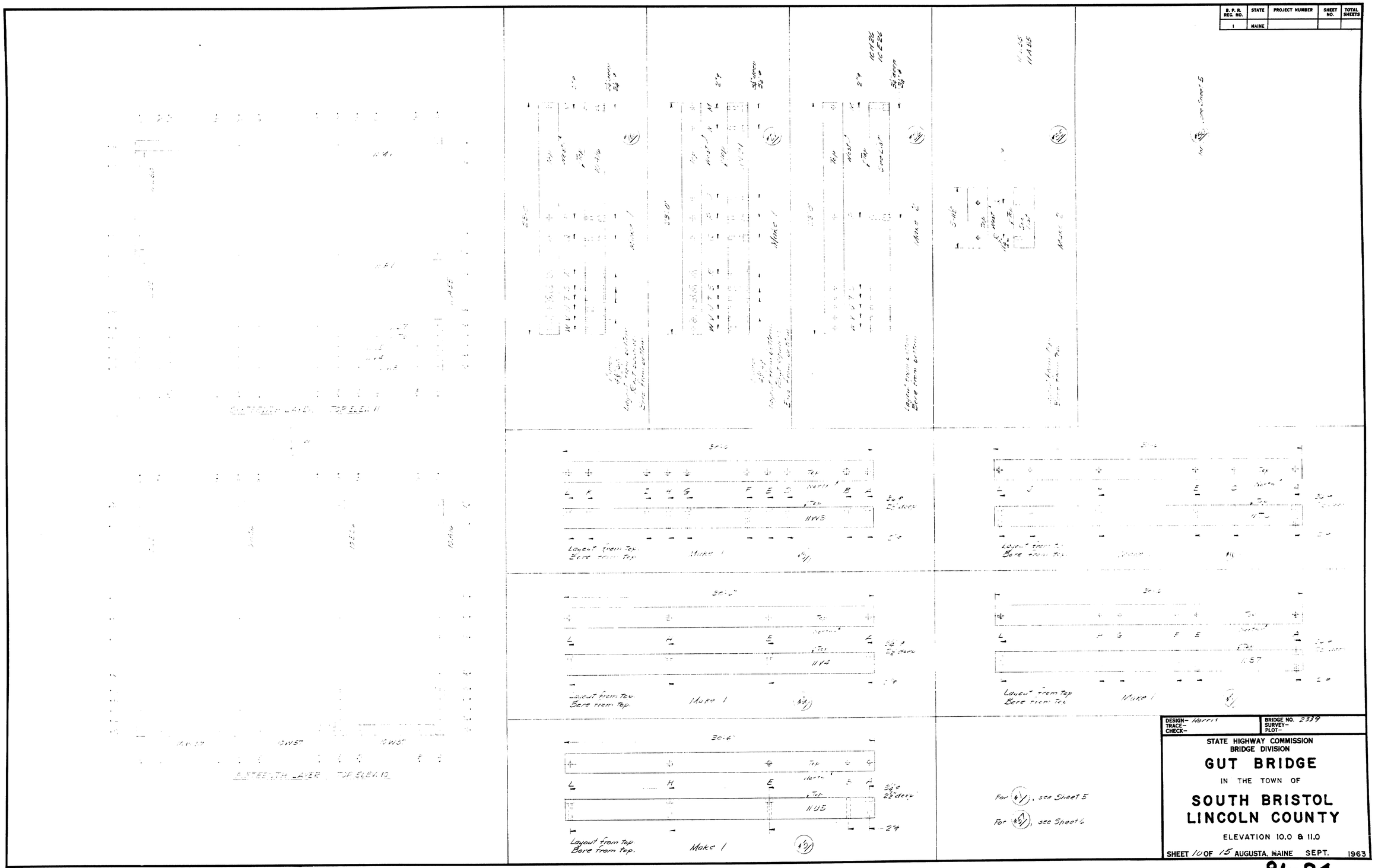
C. B. CO., NO. 44303 25515



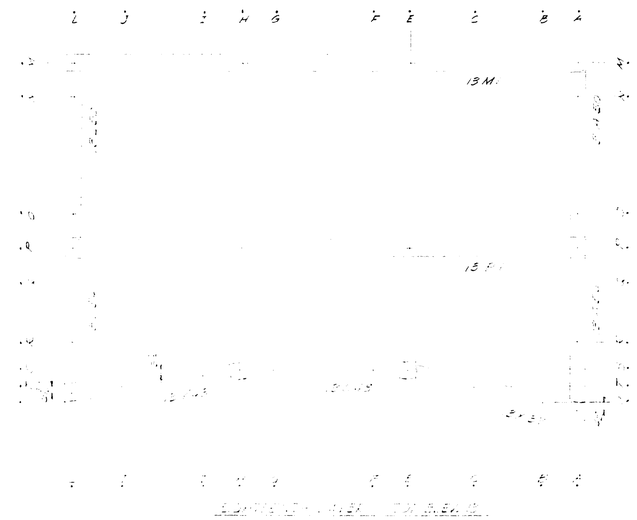
| B. P. R. REG. NO. | STATE | PROJECT NUMBER | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | | | |

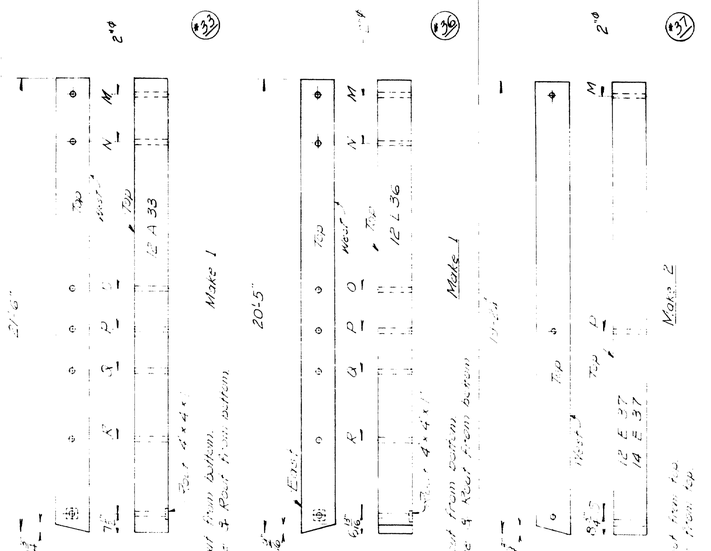
L K J H G F E D B A
9 M 9
9 M 9
9 M 9

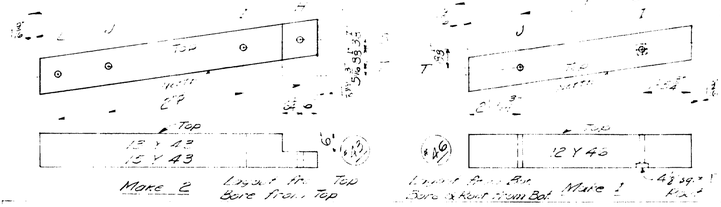
| B. P. R. REG. NO. | STATE | PROJECT NUMBER | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | | | |

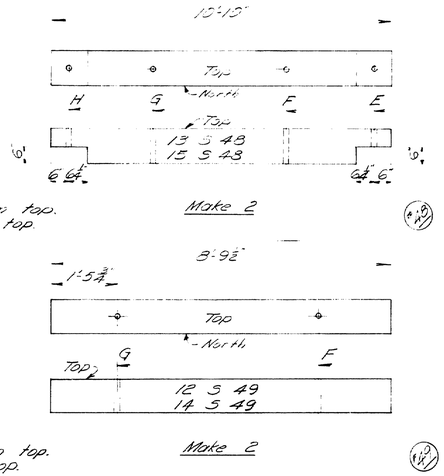


| B. P. R. REG. NO. | STATE | PROJECT NUMBER | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | | | |




For #1 see sheet 5

For #50 see sheet 5

| DESIGN– Harris | BRIDGE NO. 2339 |
|---|---|
| TRACE– | SURVEY– |
| CHECK– | PLOT– |

STATE HIGHWAY COMMISSION
BRIDGE DIVISION

# GUT BRIDGE

IN THE TOWN OF

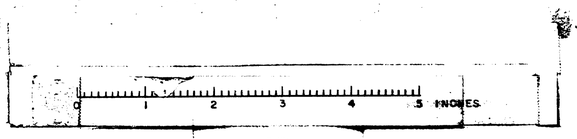
# SOUTH BRISTOL
# LINCOLN COUNTY

ELEVATION 12.0 & 13.0

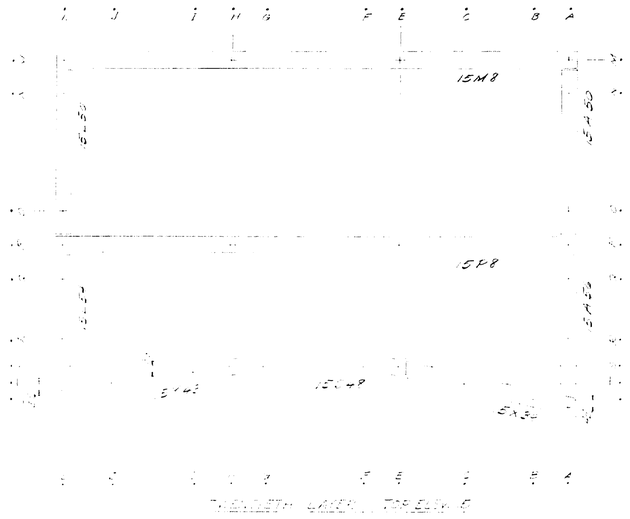
SHEET 11 OF 15 AUGUSTA, MAINE SEPT. 1963

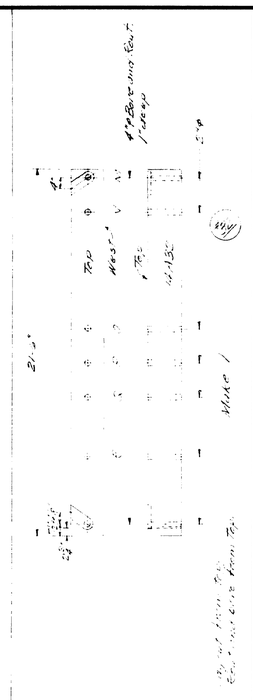
C. B. CO., NO. 44-302 88818

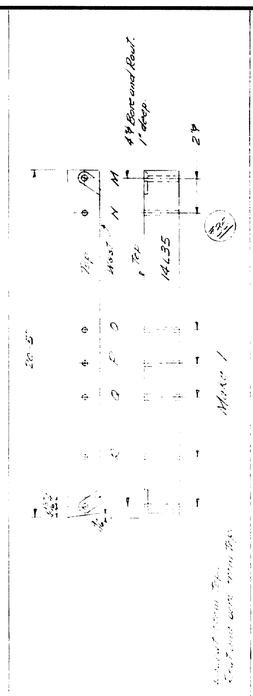
91-95

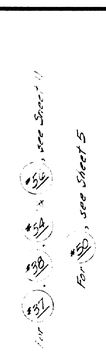


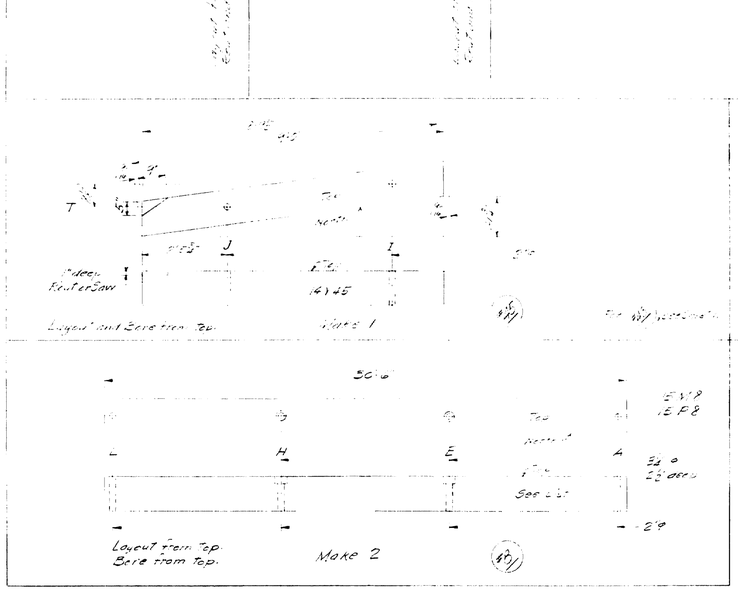
| B. P. R. REG. NO. | STATE | PROJECT NUMBER | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | | | |

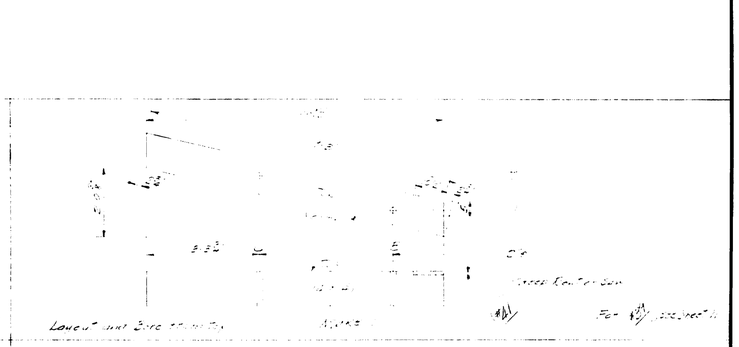


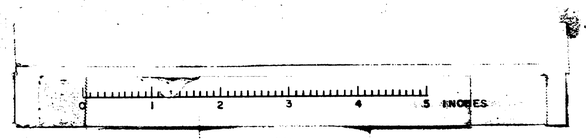




| DESIGN– Morris | BRIDGE NO. 2339 |
|---|---|
| TRACE– | SURVEY– |
| CHECK– | PLOT– |

STATE HIGHWAY COMMISSION
BRIDGE DIVISION

# GUT BRIDGE

IN THE TOWN OF

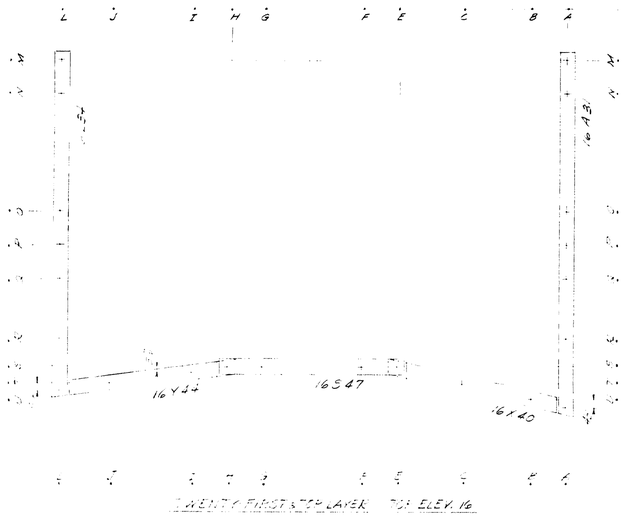
# SOUTH BRISTOL
# LINCOLN COUNTY

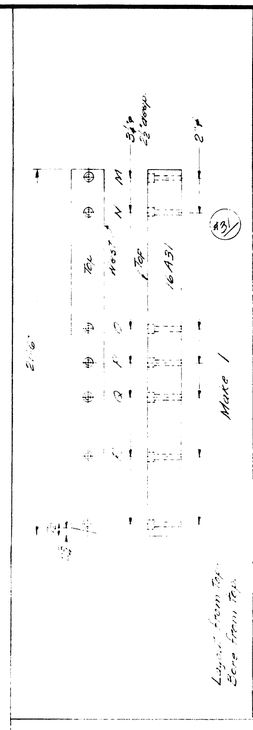
ELEVATION 14.0 & 15.0

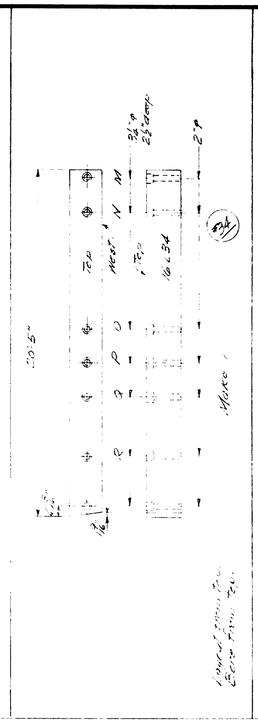
SHEET 12 OF 15 AUGUSTA, MAINE SEPT. 1963

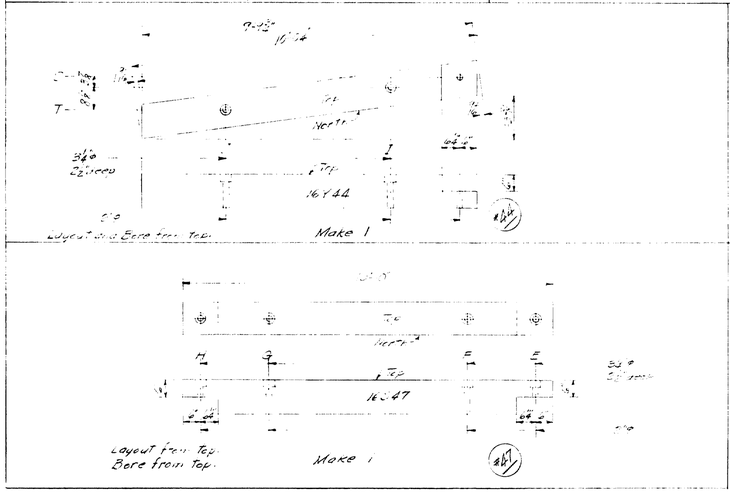
91-96

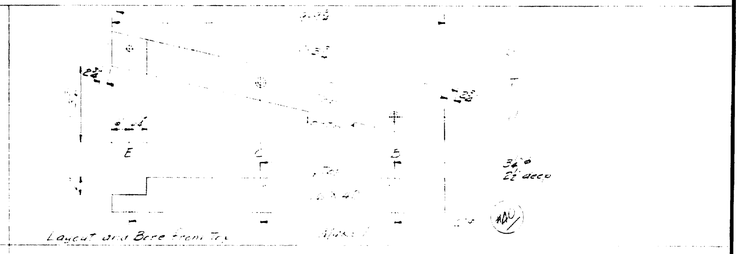
| B. P. R. REG. NO. | STATE | PROJECT NUMBER | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | | | |




DESIGN– Harris
TRACE–
CHECK–

BRIDGE NO. 2939
SURVEY–
PLOT–

STATE HIGHWAY COMMISSION
BRIDGE DIVISION

# GUT BRIDGE

IN THE TOWN OF

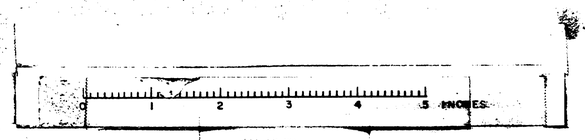
# SOUTH BRISTOL
# LINCOLN COUNTY

ELEVATION 16.0

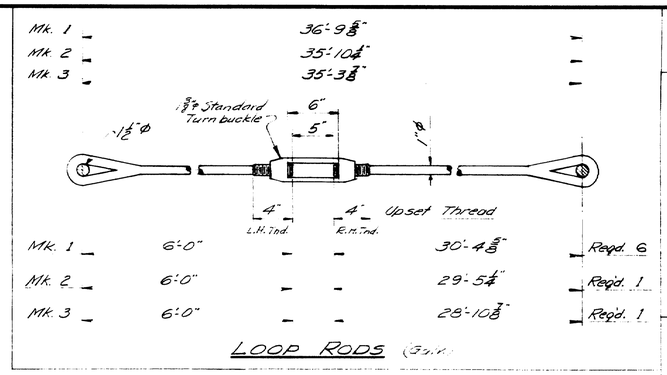
SHEET 13 OF 15 AUGUSTA, MAINE SEPT. 1963

C. B. CO., NO. 44-302 20010

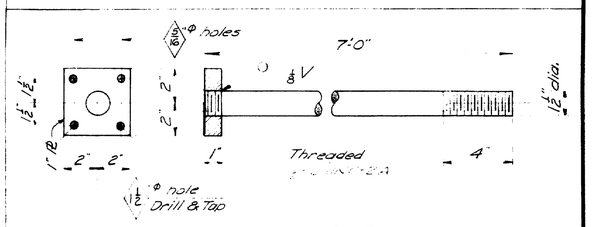
91-97



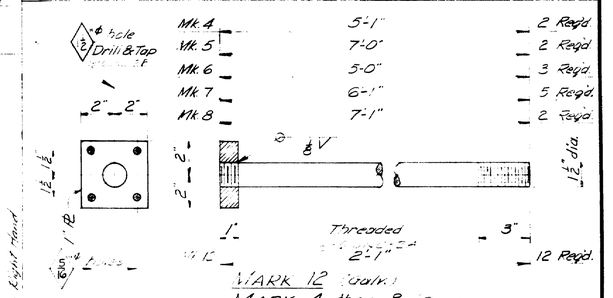
| B. P. R. REG. NO. | STATE | PROJECT NUMBER | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | | | |



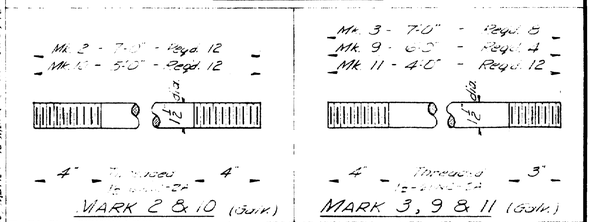

LOOP RODS (Galv.)



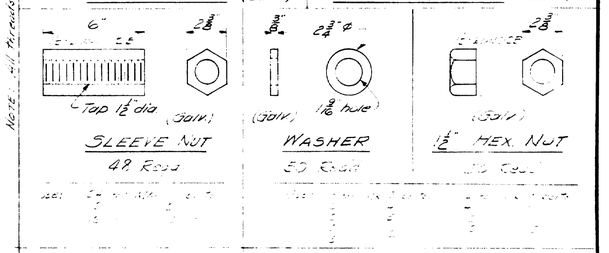

MARK 1 - 24 REQD. (Galv.)

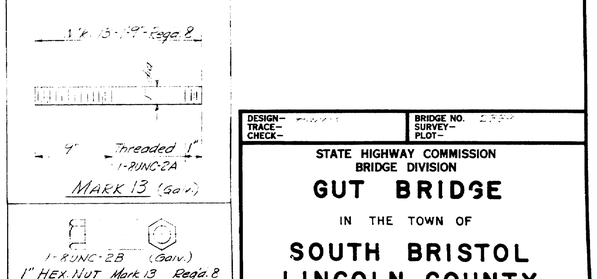



MARK 12 (Galv.)
MARK 4 thru 8 (Galv.)

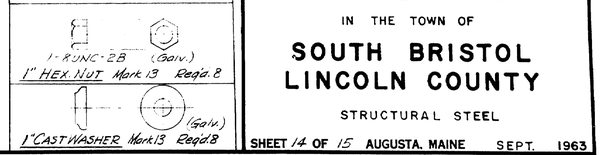


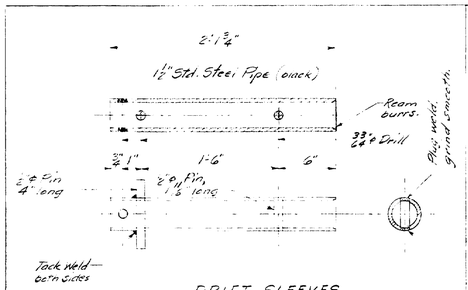

MARK 2 & 10 (Galv.)
MARK 3, 9 & 11 (Galv.)



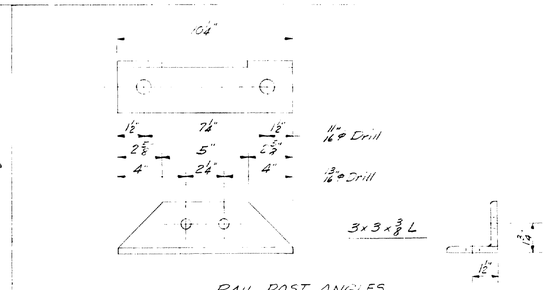




MARK 13 (Galv.)






DRIFT SLEEVES
20 Reqd.




RAIL POST ANGLES
8 Reqd. (Galv.)

NOTE: Threads and Tabs where indicated as "UNC" shall be in accordance with "Bolt, Nut and Rivet Standards of the Industrial Fasteners Institute.

Galvanizing shall be in accordance with the latest revised ASTM Specification A123.

Note: All threads to have 2½ full threads, as a minimum, at the bolt head.

| DESIGN– | BRIDGE NO. |
|---|---|
| TRACE– | SURVEY– |
| CHECK– | PLOT– |

STATE HIGHWAY COMMISSION
BRIDGE DIVISION

# GUT BRIDGE

IN THE TOWN OF

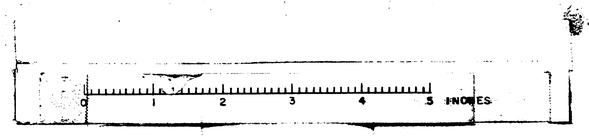
# SOUTH BRISTOL
# LINCOLN COUNTY

STRUCTURAL STEEL

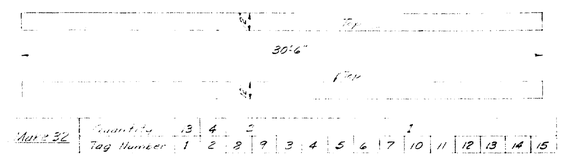
SHEET 14 OF 15 AUGUSTA, MAINE SEPT. 1963

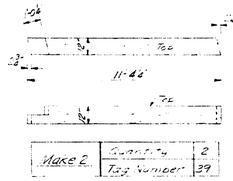
C. B. CO., NO. 44-302

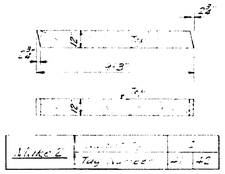
91-98

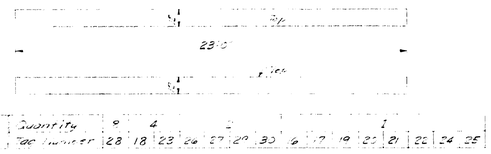


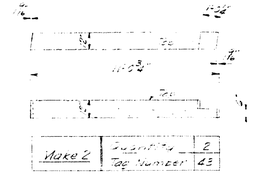
| B. P. R. REG. NO. | STATE | PROJECT NUMBER | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | | | |

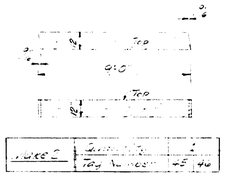


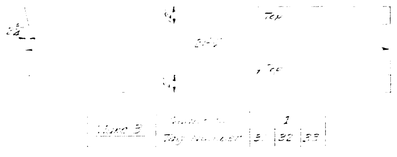



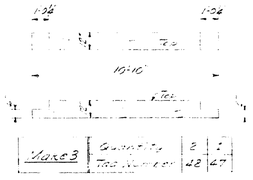



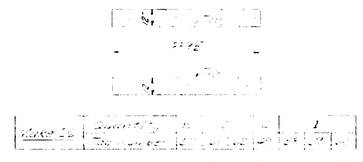



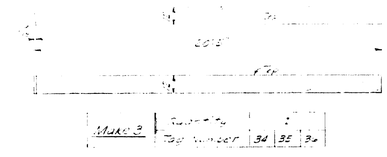



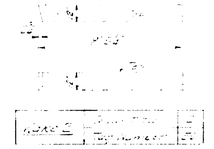



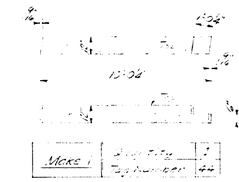



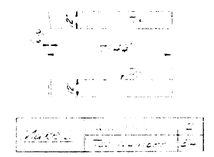



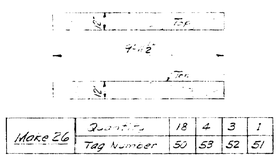



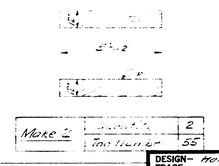









TYPICAL TAG
Mark 145
as per Schedule

Tag to be of Steel Stock
Gage Material with Punch
¼" high numbers stamped in Tag
Nail the tag into one end of each of the 145 timbers. The same No. of small numbers to be numbered with tags of the same number one shown in the lists under each timber detail.

LIST OF PIECES TO MARK 3 TIMBERS

| TIMBER ON TAG | TAGS REQ'D | TIMBER ON TAG | TAGS REQ'D | NUMBER ON TAG | TAGS REQ'D | NUMBER ON TAG | TAGS REQ'D |
|---|---|---|---|---|---|---|---|
| 1 | 18 | 17 | 1 | 33 | 1 | 48 | 2 |
| 2 | 4 | 18 | 4 | 34 | 1 | 49 | 2 |
| 3 | 1 | 19 | 1 | 35 | 1 | 50 | 18 |
| 4 | 1 | 20 | 1 | 36 | 1 | 51 | 1 |
| 5 | 1 | 21 | 1 | 37 | 2 | 52 | 3 |
| 6 | 1 | 22 | 1 | 38 | 1 | 53 | 4 |
| 7 | 1 | 23 | 4 | 39 | 2 | 54 | 2 |
| 8 | 2 | 24 | 1 | 40 | 1 | 55 | 2 |
| 9 | 2 | 25 | 1 | 41 | 1 | 56 | 2 |
| 10 | 1 | 26 | 2 | 42 | 1 | 57 | 15 |
| 11 | 1 | 27 | 2 | 43 | 2 | 58 | 1 |
| 12 | 1 | 28 | 2 | 44 | 1 | 59 | 1 |
| 13 | 1 | 29 | 2 | 45 | 1 | 60 | 1 |
| 14 | 1 | 30 | 2 | 46 | 1 | 61 | 3 |
| 15 | 1 | 31 | 1 | 47 | 1 | 62 | 3 |
| 16 | 1 | 32 | 1 | | | TOTAL= | 145 |

See Specifications with Proposal.

145 Pieces of 12"x12" Rough Treated Timber cut to length and shape as shown, with identifying tags, are required.

DESIGN- Morris
TRACE-
CHECK-

BRIDGE NO. 2339
SURVEY-
PLOT-

STATE HIGHWAY COMMISSION
BRIDGE DIVISION

# GUT BRIDGE

IN THE TOWN OF

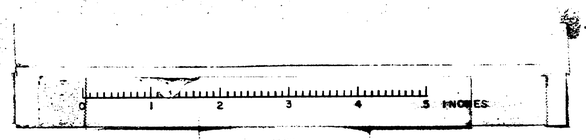
# SOUTH BRISTOL
# LINCOLN COUNTY

TIMBER SCHEDULE

SHEET 15 OF 15 AUGUSTA, MAINE SEPT. 1963

C. B. CO., NO. 44-302 30116

91-99



| B. F. P. REG. NO. | STATE | PROJECT NUMBER | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | | | 4A |

| PIECES | AGE |
|---|---|
| 1 | 21 |
| 9 | 20 |
| 7 | 19 |
| 9 | 18 |
| 7 | 17 |
| 10 | 16 |
| 7 | 15 |
| 6 | 14 |
| 3 | 13 |
| 2 | 12 |
| 11 | 11 |
| 11 | 10 |
| 9 | 9 |
| 7 | 8 |
| 6 | 7 |
| 7 | 6 |
| 5 | 5 |
| 7 | 4 |
| 145 | |

45 pin tops
To be more as shown

NUMBER
LETTER
ELEVATION

POINT of station pieces

6" spaces shown

| DESIGN– | BRIDGE NO. 1959 |
|---|---|
| TRACE– | SURVEY– |
| CHECK– | PLOT– |

STATE HIGHWAY COMMISSION
BRIDGE DIVISION

CUT BRIDGE
IN THE TOWN OF
SOUTH BRISTOL
LINCOLN COUNTY

PLAN OF TIMBERS

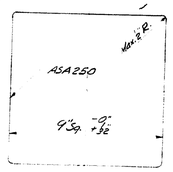
SHEET 15A OF 15+A AUGUSTA, MAINE FEB. 64

C. B. CO., NO. 66-131 29766

91-100

0 1 2 3 4 5 INCHES

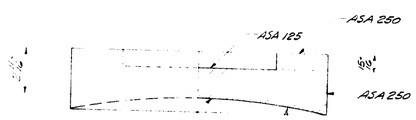
| B. P. R. REG. NO. | STATE | PROJECT NUMBER | SHEET NO. |
|---|---|---|---|
| 1 | MAINE | | |



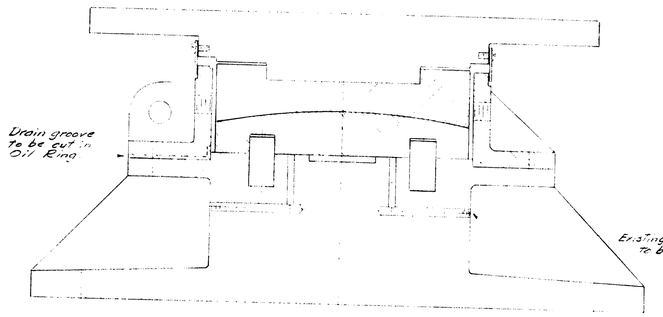

Aluminum Bronze, ASTM B 148, Alloy 9C.

1'-3" Dia.

TOP VIEW

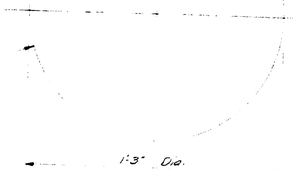



ELEV. & SECT.



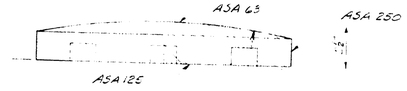

PROPOSED ASSEMBLY OF EXISTING CENTER PIVOT WITH NEW DISCS

Corrosion-Resisting Chromium-Nickel-Manganese Steel Plate, Type 202, Annealed, ASTM A 412-57T.

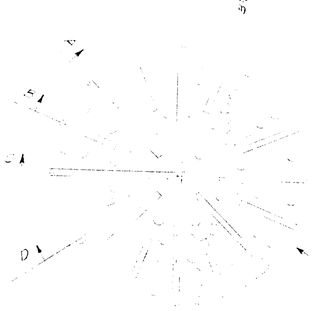


1'-3" Dia.

TOP VIEW



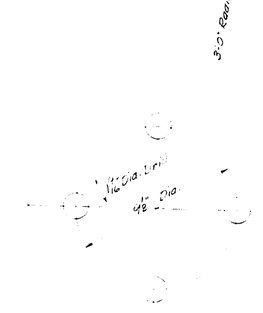

ELEV. & SECT.




Suggested layout of lubricant recesses.

BOTTOM VIEW

UPPER DISC NEW




BOTTOM VIEW

LOWER DISC NEW

INQUIRY DATA

TYPE - Bob-tailed Swing Span Bridge
QUANTITY - One.
SIZE - Known.
STYLE - Two 5 size disc.
TOTAL LOAD - 250 Tons estimated.
SPEED in RPM - One
TYPE of MOTION - Rotary, 90° each direction
LOAD CLASSIFICATION - Intermittent
AMBIENT BEARING TEMPERATURE - Atmospheric
OPERATING MEDIA - Intermittent flooding at 3yr. interval
PREVIOUS BEARING - Corrosion resisting Bronze, Alloy A disc on corrosion hardened tool steel disc. Forced grease lubrication to two grooves in bronze & Norm. thickness of bronze - 7 years or 1460 openings of bridge. Cause lubrication no longer possible.

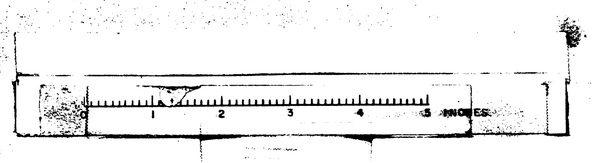
| | |
|---|---|
| DESIGN- HARRIS<br>TRACE- HARRIS<br>CHECK- | BRIDGE NO. 2339<br>SURVEY-<br>PLOT- |

STATE HIGHWAY COMMISSION
BRIDGE DIVISION

GUT BRIDGE
BETWEEN
RUTHERFORD ISLAND
AND
MAINLAND
SOUTH BRISTOL
LINCOLN COUNTY
CENTER PIVOT INQUIRY

SHEET 1 OF 1 AUGUSTA, MAINE JAN. 1965

105-3 10-21 B



| F.A.S.S. SEQ. NO. | STATE | PROJECT NUMBER | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | BH 0160(7) | 1 | 16 |

# STATE OF MAINE
# DEPARTMENT OF TRANSPORTATION

## BUREAU OF HIGHWAYS

### CONVENTIONAL SIGNS

| | | | |
|---|---|---|---|
| COUNTY LINES | | TRAVELLED WAY - PROPOSED | |
| TOWN LINES | | UNDERGROUND UTILITIES - EXISTING | |
| PROPERTY LINES | | UNDERGROUND UTILITIES - PROPOSED | |
| R/W LINES - EXISTING | | RAILROAD - SINGLE TRACK | |
| R/W LINES - NEW - ACCESS CONTROL | | RAILROAD - DOUBLE TRACK | |
| R/W LINES - NEW - NO ACCESS CONTROL | | UTILITY POLE - EXISTING | o |
| CULVERT - EXISTING | | UTILITY POLE - JOINT OCCUPANCY | o |
| CULVERT - PROPOSED | | PROPOSED UTILITY POLE - TEMPORARY | x |
| CURBING - EXISTING | | PROPOSED UTILITY POLE - PERMANENT | ⊕ |
| CURBING - PROPOSED | | TREES | O hardwood, Y softwood |
| TRAVELLED WAY - EXISTING | | WOODS | |

LOCATION MAP

SCALE

PREPARED AND RECOMMENDED BY:

HARRINGTON & CORTELYOU, INC
Consulting Engineers

STATE OF MAINE — WILLIS G. GRINSTEAD — 4570 — REGISTERED PROFESSIONAL ENGINEER

Willis G. Grinstead 8-4-83

PLANS

## TOWN OF SOUTH BRISTOL
## COUNTY OF LINCOLN

1984

FEDERAL AID SECONDARY
PROJECT NO. BH-0160(7)

## REHABILITATION OF THE GUT BRIDGE
STRUCTURAL, MECHANICAL & ELECTRICAL

Plans of the existing bridge are available for the Contractor's reference at the Bridge Design Office in Augusta. The plans are reproductions of original drawings as prepared for the construction of the bridge and it is very unlikely that the plans will show any construction field changes or any alterations which may have been made to the bridge during its life span.

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TRAFFIC DATA

A.D.T. 3000 1980
A.D.T. 1950 2000
D.H.V. 390
T. (%) 6
D. (%)
V.
P.S.D. (%)
18 KIPS

NOTE

All work contemplated under this contract to be governed by and in conformity with the STANDARD SPECIFICATIONS (revision of June 1981) and supplementals thereto, except as modified on the plans and in the special provisions.

STATE OF MAINE — RICHARD A. MAY — PROFESSIONAL ENGINEER

APPROVED:

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
COMMISSIONER — DATE 8-12-83

BUREAU DIRECTOR AND CHIEF ENGINEER — DATE 8-12-83

R93-166

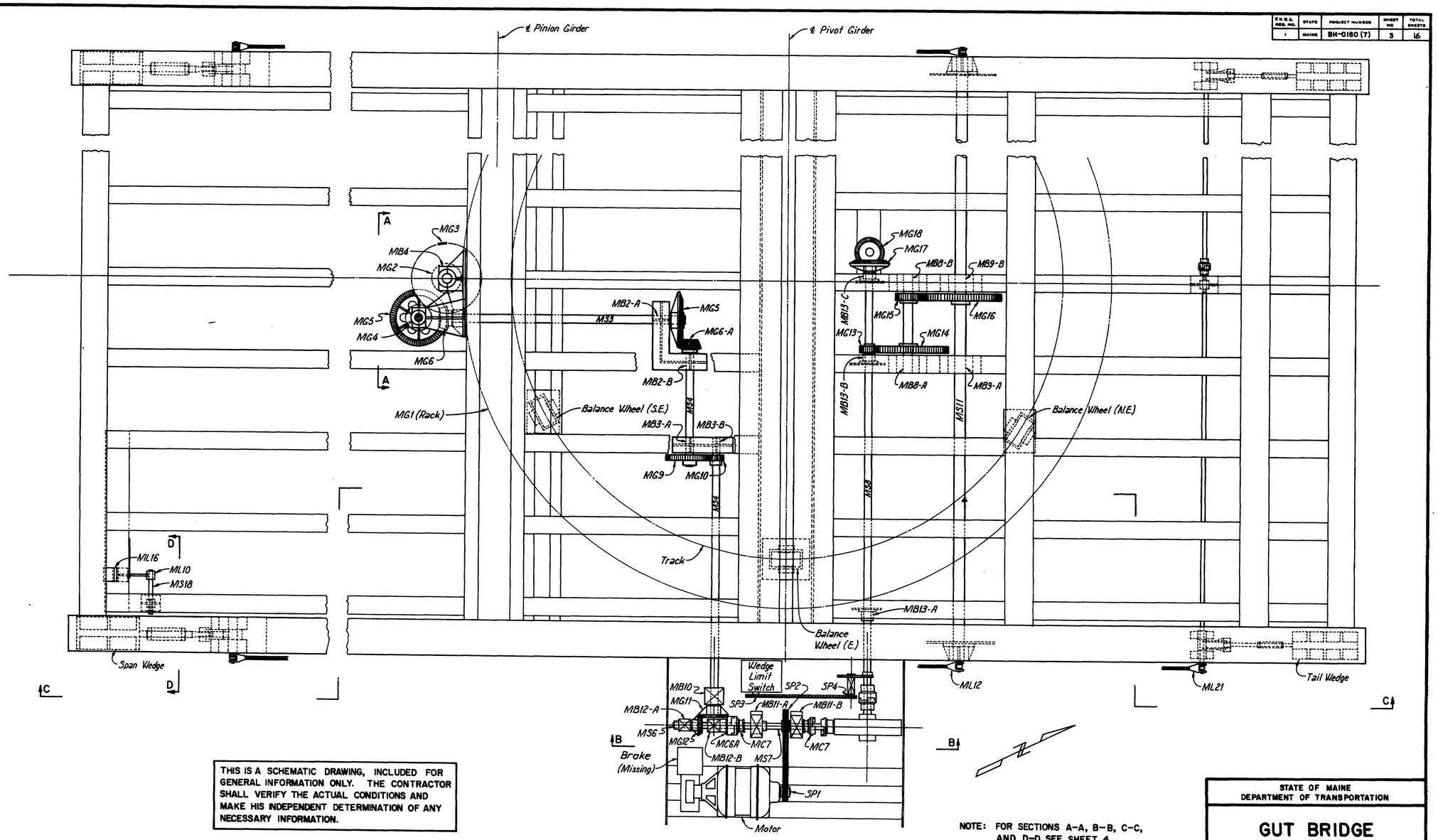
UNITED STATES
DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
REGION 1

APPROVED:

DIVISION ADMINISTRATOR — DATE

BRUNING 44-132 45710-1

| F.H.W.A. REG. NO. | STATE | PROJECT NUMBER | SHEET NO | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | BH-0180 (7) | 3 | 16 |




**PLAN**
NO SCALE

NOTE: FOR SECTIONS A–A, B–B, C–C, AND D–D SEE SHEET 4.

THIS IS A SCHEMATIC DRAWING, INCLUDED FOR GENERAL INFORMATION ONLY. THE CONTRACTOR SHALL VERIFY THE ACTUAL CONDITIONS AND MAKE HIS INDEPENDENT DETERMINATION OF ANY NECESSARY INFORMATION.

*Designations of the various parts are taken from the origanal Shop Drawings for the structure which are available from MDOT.*

| PROJECT DESIGN ENGINEER | BY | DATE |
|---|---|---|
| PLANS | DESIGN - DETAILED | AP 12/1/80 |
| | CHECKED | HRJ 4-7-83 |
| | REVISIONS | |
| | FIELD CHANGES | |

DRAWING 44-132-45710

HARRINGTON & CORTELYOU, INC.
Consulting Engineers

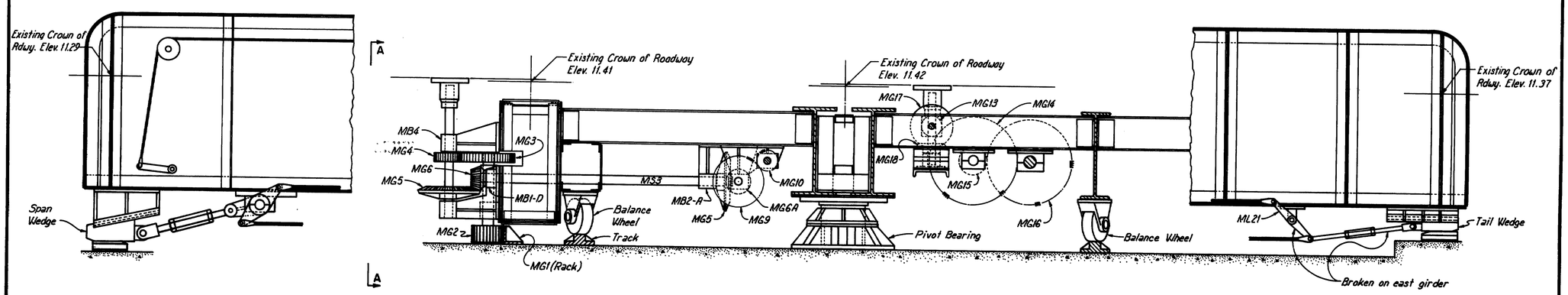
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

# GUT BRIDGE
## SOUTH BRISTOL, MAINE
## PLAN OF EXISTING MACHINERY

R93-167

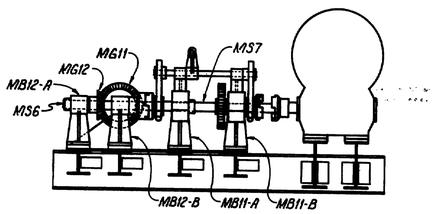
SHEET 3 OF 16 AUGUSTA, MAINE

| F.H.W.A. REG. NO. | STATE | PROJECT NUMBER | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | BH-0180 (7) | 4 | 16 |



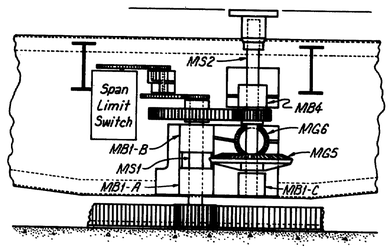

**SECTION C-C**

NO SCALE



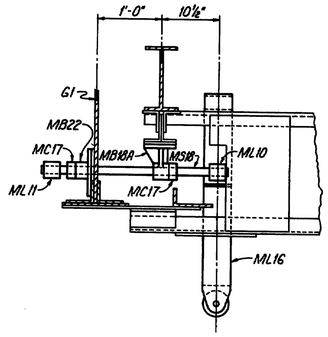

**SECTION B-B**

NO SCALE




**SECTION A-A**

NO SCALE




**SECTION D-D**

NO SCALE

| PROJECT DESIGN ENGINEER | BY | DATE |
|---|---|---|
| PLANS | | |
| DESIGN - DETAILED | TMP | 3-31-93 |
| CHECKED | MGJ | 4-7-93 |
| REVISIONS | | |
| FIELD CHANGES | | |

THIS IS A SCHEMATIC DRAWING, INCLUDED FOR GENERAL INFORMATION ONLY. THE CONTRACTOR SHALL VERIFY THE ACTUAL CONDITIONS AND MAKE HIS INDEPENDENT DETERMINATION OF ANY NECESSARY INFORMATION.

*Designations of the various parts are taken from the original Shop Drawings for the structure which are available from MDOT.*

HARRINGTON & CORTELYOU, INC.
Consulting Engineers

BRUNING 44-132-4710

R93-168

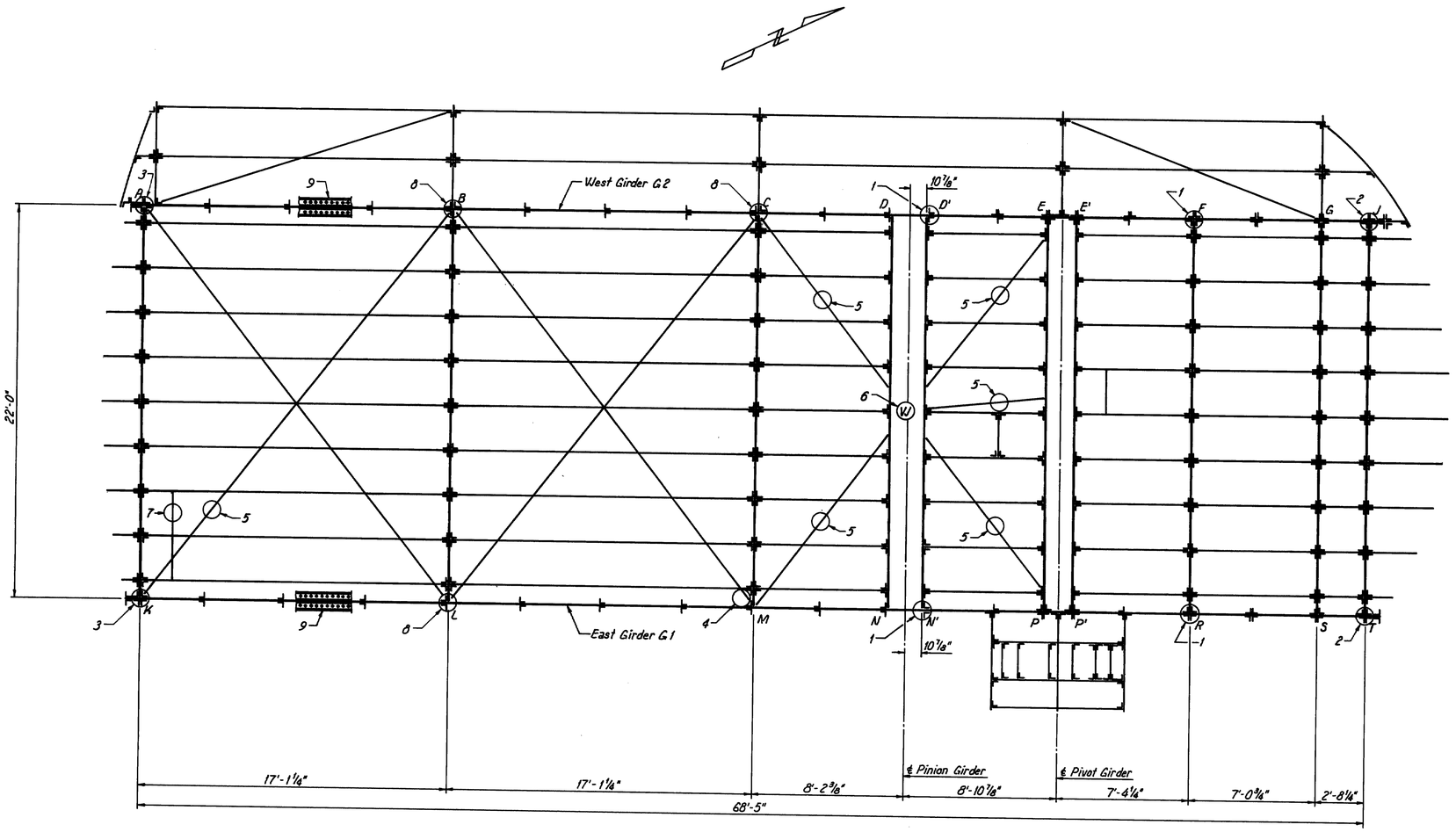
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

# GUT BRIDGE
SOUTH BRISTOL, MAINE

## EXISTING MACHINERY DETAILS

SHEET 4 OF 16 AUGUSTA, MAINE

| F.H.W.A. REG. NO. | STATE | PROJECT NUMBER | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | BH-0160 (7) | 5 | 15 |




## FRAMING PLAN

**LEGEND**

1. Install permanent Jacking Stiffeners.
2. Modify existing Bearing Stiffeners.
3. Install new Bearing Stiffeners.
4. Replace riveted connection with bolted connection.
5. Replace Lower Lateral with new member.
6. Install new Lower Lateral Plate on Pinion Girder.
7. Modifications to Latch Bar Guide.
8. Install new Lower Lateral Gusset Plate.
9. Install new Bottom Flange Cover Plates on Girders G1 & G2.

Notes: For details of structural work except for No. 7 see Sheet 6. For No. 7 see Sheet 9.
ALL dimensions were taken from original Shop Drawings.

R93-169

| PROJECT DESIGN ENGINEER | BY | DATE |
|---|---|---|
| PLANS DESIGN - DETAILED | LBF | 3-31-93 |
| CHECKED | MDJ | 4-7-93 |
| REVISIONS | | |
| FIELD CHANGES | | |

HARRINGTON & CORTELYOU, INC.
Consulting Engineers

BRUNING 44-132-4710

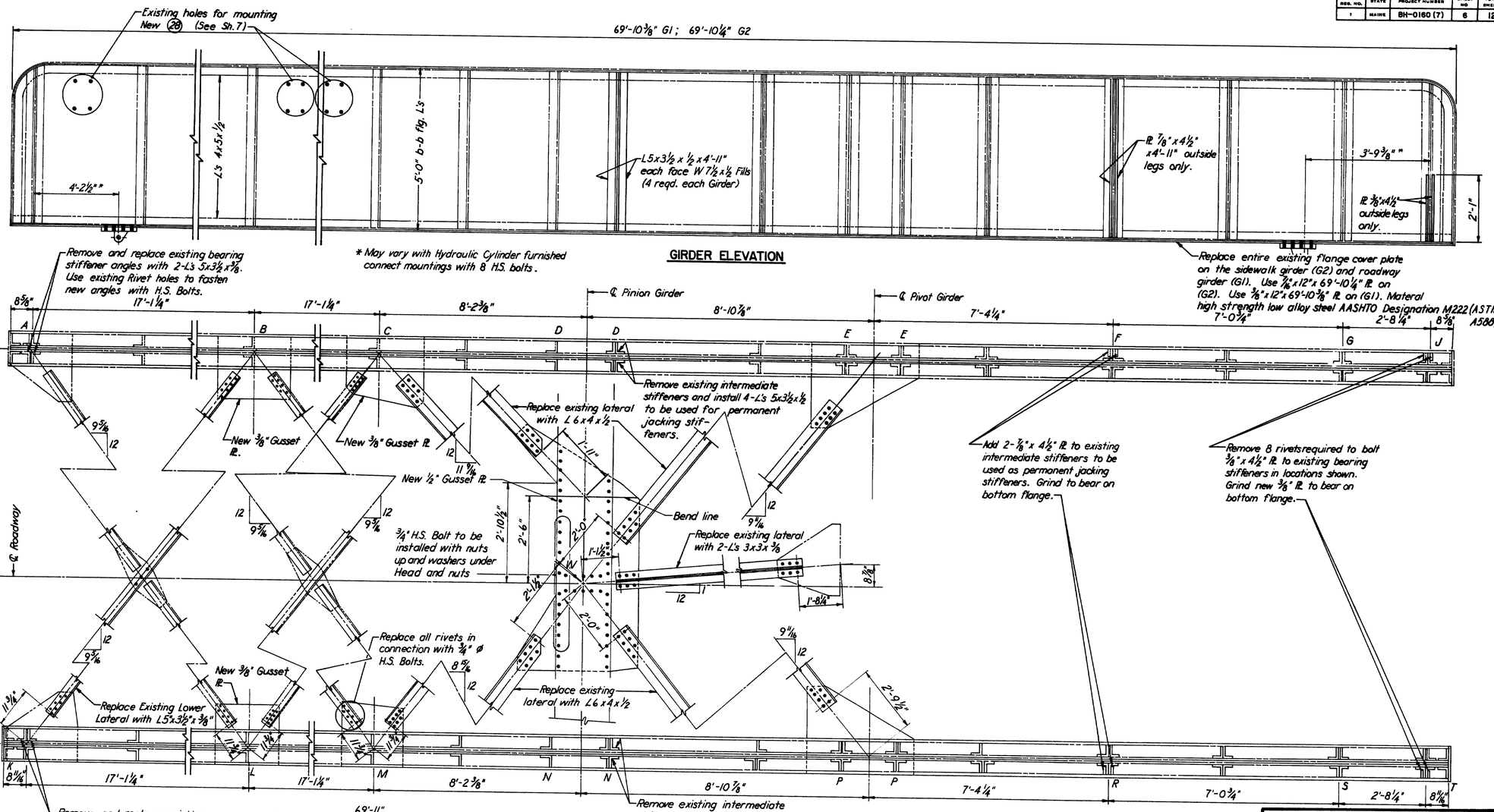
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

**GUT BRIDGE**
**SOUTH BRISTOL, MAINE**

**FRAMING PLAN**

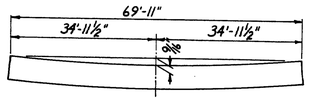
SHEET 5 OF 16 AUGUSTA, MAINE

| F.H.W.A. REG. NO. | STATE | PROJECT NUMBER | SHEET NO | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | BH-0160 (7) | 6 | 12 |




GIRDER ELEVATION

LOWER LATERAL AND BOTTOM FLANGE PLAN




CAMBER DIAGRAM

| PROJECT DESIGNATION | BY | DATE |
|---|---|---|
| PLANS | DESIGN DETAILED | MDOT 2-1788 |
| | CHECKED | MDOT 4-1783 |
| | REVISIONS | |
| | FIELD CHANGES | |

BRUNING 44-132-45710

Note:
All rivets removed shall be replaced with 3/4" ø H.S. (ASTM A325) bolts unless otherwise noted. Prior to installation of new plates all surfaces both new and old will be free of rust. Old steel surfaces shall be sand-blasted to remove rust and paint to insure uniform surface contact with new steel.
Reconnect two bottom lacing bars at east end of pinion girder with 3/4" ø H.S. Bolts.
See orginal shop drawings dated 6-27-30 available from MDOT for additional details of existing steelwork.

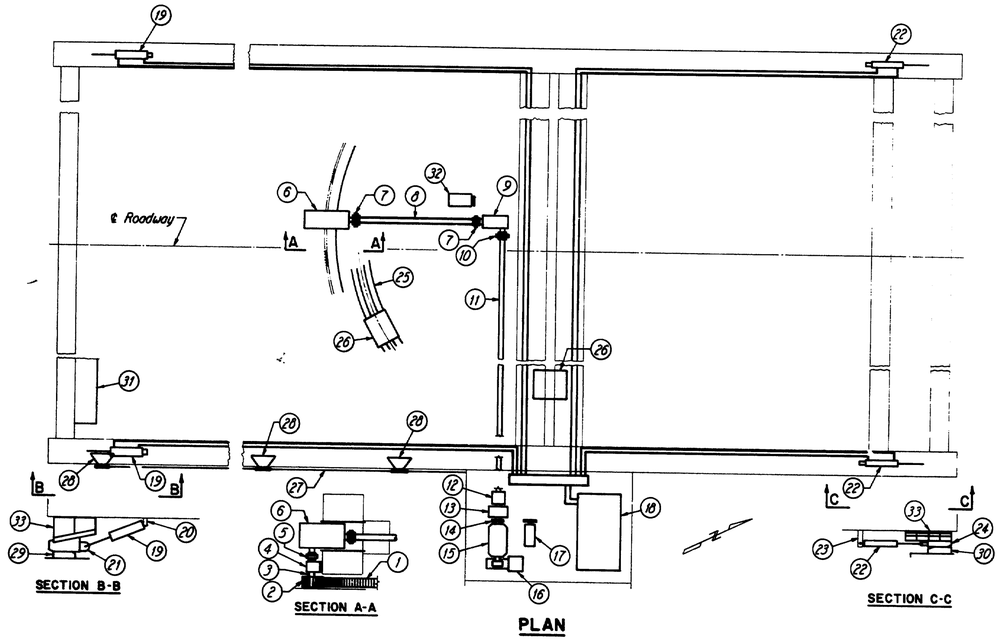
R93-170

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

# GUT BRIDGE
## SOUTH BRISTOL, MAINE
## GIRDER AND LATERAL REPAIRS

SHEET 6 OF 13 AUGUSTA, MAINE

| F.H.W.A. REG. NO. | STATE | PROJECT NUMBER | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | BH-0160(7) | 7 | 16 |




## MACHINERY SCHEDULE

| Item | | No. Reqd | Design Requirements | Suitable Equipment |
|---|---|---|---|---|
| 1 | New Rack | 1 | 240 in. pitch diam., 2" cir. pitch, 140 teeth thru a 133°-41'-24.5" Arc. Materials Struct. Carbon Steel AASHTO M183 (ASTM A36) | See Plan Sheet No. 9 |
| 2 | New Pinion | 1 | 13.369" pitch dia., 2" cir. pitch, 21 teeth Material - Forged Steel AASHTO M102 Cl.D (ASTM A668) | See Plan Sheet No. 9 |
| 3 | New Shaft | 1 | 4⅝" dia. rolled steel shaft Material ASTM A663 Grade 75 | See Plan Sheet No. 8 |
| 4 | New Bearing | 1 | 4⅝" dia. bronze bushed bearing. Material AASHTO M107 Alloy 937 ((ASTM B22) in AASHTO M183 Carbon Steel Blocks (ASTM B36) | See Plan Sheet No. 8 |
| 5 | New Coupling | 1 | Single engagement gear tooth coupling Minimum rating of 181 HP @ 100 rpm and a radial capacity of 6.0 kips | Falk GVS2 Size 1040GV |
| 6 | New Gear Reducer | 1 | 90° vertical Helical Bevel Reducer with 7.59:1 ratio with minimum rating of 77,000 in. lb. 3.22 rpm output and over hung load capacity of 6,000 lb. | Foote-Jones VBHE Size 902<br>Falk YBX2 Size 2080 |
| 7 | New Coupling | 2 | Single engagement gear tooth coupling. Minimum rating of 24.7 HP @ 100 rpm and maximum bore of 2⅞ inches | Falk GS2 Size 1020G<br>Sier Bath Size F-2<br>Dodge Size 2WFR |
| 8 | New Shaft | 1 | 2⅞" dia. rolled steel shaft Material ASTM A663 Grade 75 | See Plan Sheet No. 8 |
| 9 | New Gear Reducer | 1 | 90° horizontal Helical Bevel Reducer with 1.84:1 ratio with minimum rating of 10,400 in. lb. @ 24.5 rpm | Falk GHB1 Size 2070<br>Foote-Jones SBH Size 10 |
| 10 | New Coupling | 1 | Single engagement Gear Coupling. Minimum rating of 14 HP @ 100 rpm and maximum bore of 2⅞ inches one half | Sier-Bath F-1⅞<br>Falk GS2 Size 1015<br>Dodge 1⅞ WFR |
| 11 | New Shaft | 1 | 2⅝" dia. rolled steel shaft - turned to fit 12 and 13. Material ASTM A663 Grade 75 | See Plan Sheet No. 8 |
| 12 | New Bearing | 1 | Pillow block bearing lined with AASHTO M107 Alloy 937 bronze. Minimum radial capacity 750 lb. @ 45 rpm | Dodge - "Split Bronze Bushed Bearing" Cat. D78 p. 10-103 for 2-7/16" - 2-1/2" dia. journals |
| 13 | New Shaft Mounted Reducer | 1 | Shaft Mounted gear reducer with 15:1 ratio. Minimum rating of 5,800 in. lb. @ 45 rpm output. | Dodge TDT 415<br>Foote-Jones 7207H15<br>Falk 2207JR14 |
| 14 | New Chain Drive | 1 | ½" pitch roller chain drive with 30 tooth Sprockets conforming to ANSI B18.3-1976 Minimum chain strength = 3,700 lb. | Dodge Cat. D78 Section 50, p. 4-7, 27, 63 & 100 |
| 15 | New Electric Motor | 1 | 3 HP TENV Wound Rotor Motor 720 rpm sycn. speed Minimum rating of 260 in. lb. @ 675 rpm. Frame size 256. Locked rotor and breakdown torque in accordance with NEMA. | General Electric Type MR Rated for 60 minutes |
| 16 | New Motor Brake | 1 | Solenoid operated, motor mounted brake with 60 minute rating of 15 ft. lb., set for 13.2 ft-lb. of torque. | General Electric IC 9516 Form 460 |
| 17 | New Air Motor | 1 | Air Motor for emergency operation rated @ 2.7 HP developing 167 ft. lb. starting torque with 90 psi air pressure, complete with chain sprocket, chain, reversing valves. | Cooper Air Tools 73337AA7 |
| 18 | New Hydraulic Power Unit | 1 | Hydraulic Power capable of delivering 3.6 gal. of fluid per minute at 1000 psi pressure using a 3 HP electric motor, complete with 40 gal reservoir, fluid heater with thermostat control, filters and gage. | Systems Machinery Engineering Inc. Kansas City, Missouri Custom Fabricated Unit |
| 19 | New Hydraulic Cylinder | 2 | 3¼" dia. hydraulic cyrnder with 13" stroke, cushoned both ends, rod clevice, limit switches both ends and rod boot. | Aeroquip-Model SH 3 |
| 20 | New Cylinder Mounting | 2 | Material AASHTO M183 (ASTM A36) | See Plan Sheet No. 6 |
| 21 | Old Span Wedge | 2 | Modified for new hydraulic operation | See Plan Sheet No. 9 |
| 22 | New Hydraulic Cylinder | 2 | 2" dia. hydraulic cylinder with 12" stroke, cushoned both ends, rod clevice, limit switches both ends and rod boot. | Aeroquip-Model SH 3 |
| 23 | New Cylinder Mounting | 2 | Material AASHTO M183 (ASTM A36) | See Plan Sheet No. 6 |
| 24 | Old Tail Wedge | 2 | Modified for new hydraulic operation | See Plan Sheet No. 9 |
| 25 | New Track | 1 | 8'-6" dia. track in 360° arc, Material AASHTO M183 (ASTM A36) | See Plan Sheet No. 9 |
| 26 | Old Balance Wheel Assemblies | 6 | To be refurbished and modified for reinstallation | See Plan Sheet No. 9 |
| 27 | New Latch Operator Cable | 1 | 3/8" dia. stainless steel aircraft cable 7 x 19 construction with min. strength of 1,700 lb. | See Plan Sheet No. 9<br>United States Steel 18-8 Type 304 |
| 28 | New Cable Supports | 3 | Material AASHTO M183 | See Plan Sheet No. 9 |
| 29 | Old Span Wedge Seat | 2 | Clean, galvanize and reinstall | See Plan Sheet No. 9 |
| 30 | Old Tail Wedge Seat | 2 | Clean, galvanize and reinstall | See Plan Sheet No. 9 |
| 31 | New Latch Catch | 1 | Material AASHTO M183 (ASTM A36) | See Plan Sheet No. 9 |
| 32 | New Span Limit Switch | 1 | 4 Circuit Limit Switch with Water tight enclosurer, 60:1 gear reduction and 65/44 chain speed increaser. | General Electric DS 9446C221DA710 |
| 33 | Wedge Guides | 4 | Remove, clean and reinstall with 15/16" dia. turned bolts | See Plan Sheet No. 9 |

| PROJECT DESIGN ENGINEER | BY | DATE |
|---|---|---|
| DESIGN - DETAILED | VLK | 9-28-81 |
| CHECKED | HGV | 6-7-83 |
| REVISIONS | | |
| FIELD CHANGES | | |

PLANS

BRUNING 44-132 45710

HARRINGTON & CORTELYOU, INC.
Consulting Engineers

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

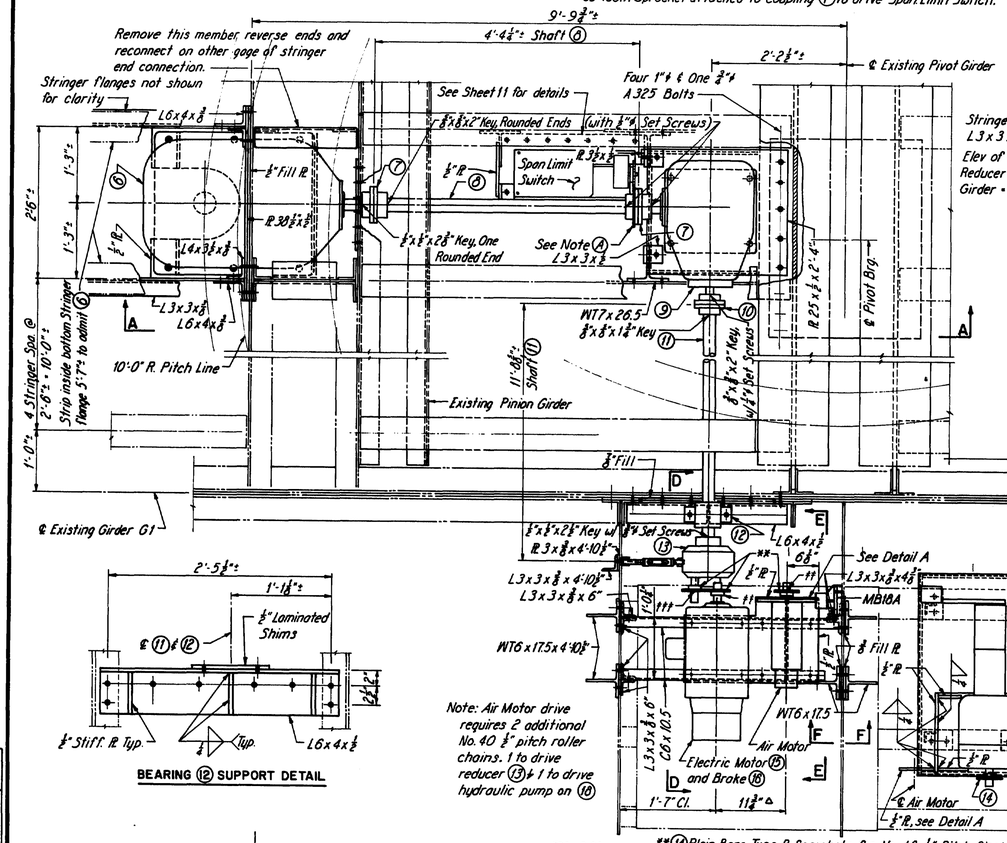
# GUT BRIDGE
## SOUTH BRISTOL, MAINE
## SCHEMATIC OF MACHINERY MODIFICATIONS

SHEET 7 OF 16 AUGUSTA, MAINE

R93-171

| F.H.W.A. REG. NO. | STATE | PROJECT NUMBER | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | BH-0160(7) | 8 | 16 |

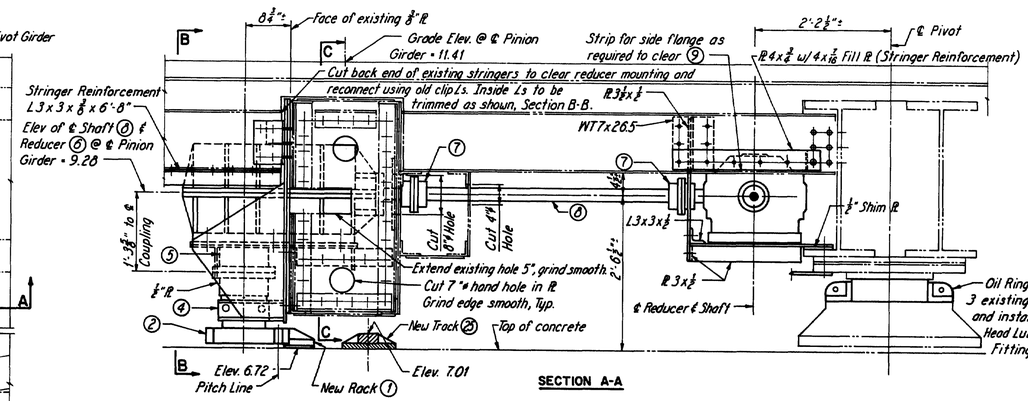
Note Ⓐ: Use a 44 Tooth Sprocket on Span Limit Switch with $\frac{1}{4}$"x $\frac{1}{16}$"x 1" Key, No. 35 $\frac{3}{8}$" Pitch Roller Chain and 65 Tooth Sprocket attached to Coupling ⑦ to drive Span Limit Switch.




PLAN

**⑭ Plain Bore Type B Sprockets for No. 40 1/4" Pitch Single Strand Chain. (30 Teeth)
†† Use 1/2"x1/8"x1" Key
††† Use 3/8"x3/8"x1" Key
△ Adjust as required for Air Motor furnished to clear relocated bearing MB18A. (See Sh. 9)

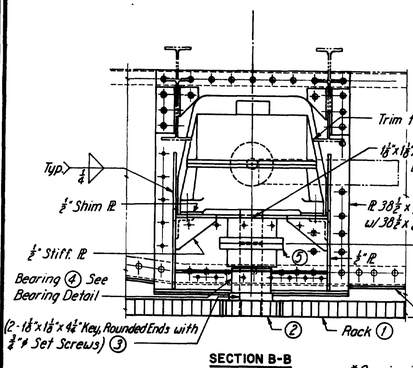
Note: Air Motor drive requires 2 additional No. 40 1/4" pitch roller chains. 1 to drive reducer ⑬ ϕ 1 to drive hydraulic pump on ⑭



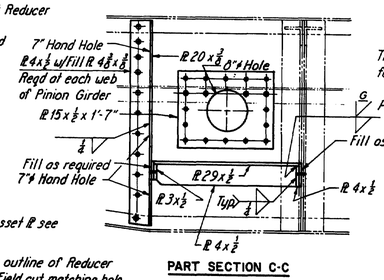

SECTION A-A




BEARING ⑫ SUPPORT DETAIL



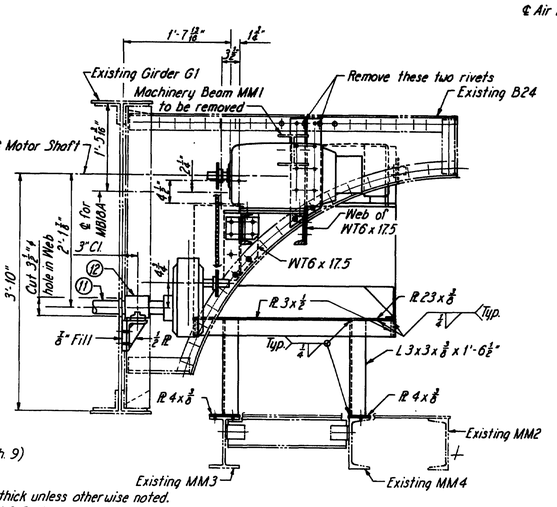

SECTION B-B



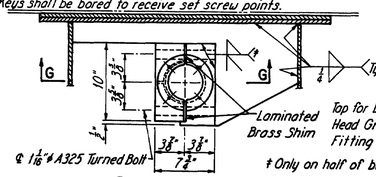

PART SECTION C-C

*Opening in plate to clear outline of Reducer by 1" except at base use 1/2". Field cut matching hole in 3/8" web PL of Pinion Girder ℄ stiff. Ls, grind smooth after cutting.

Notes:
All steel for mounting machinery shall be 1/2" thick unless otherwise noted.
℄ Denotes existing rivet to be replaced with H.S. Bolt.
Dimensions were taken from original shop drawings and survey by MDOT. The Contractor shall verify any critical dimensions before proceeding with the fabrication of the machinery.
All Keys shall be held in hubs with hex socket head set screws w/half dog points. Peen threads after installing. Keys shall be bored to receive set screw points.

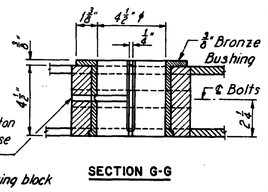



SECTION D-D

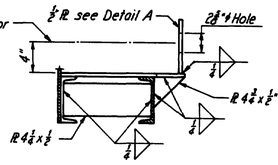



④ BEARING DETAIL

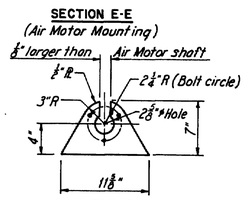
† Only on half of bearing block



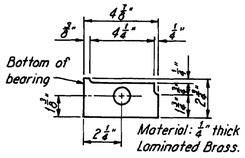

SECTION G-G




SECTION E-E
(Air Motor Mounting)




DETAIL A




BEARING SHIM DETAIL
For ④

| PROJECT DESIGN ENGINEER | BY | DATE |
|---|---|---|
| PLANS | DESIGN-DETAILED | J.L.K. 2/93 |
| | CHECKED | H.G.I. 4/93 |
| | REVISIONS | |
| | FIELD CHANGES | |

BRUNING 44-132-6710

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

# GUT BRIDGE
## SOUTH BRISTOL, MAINE
## NEW MACHINERY DETAILS

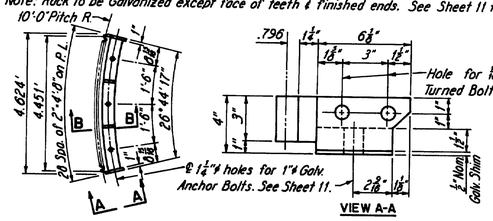
SHEET 8 OF 16 AUGUSTA, MAINE

R93-172

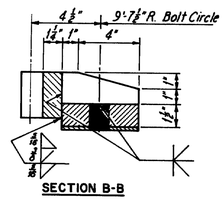
| F.H.W.A. REG. NO. | STATE | PROJECT NUMBER | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | BH-0160(7) | 9 | 16 |

## RACK WELDMENTS (1)

Note: Rack to be Galvanized except face of teeth & finished ends. See Sheet 11 for Anchor Bolts.

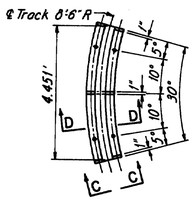



VIEW A-A



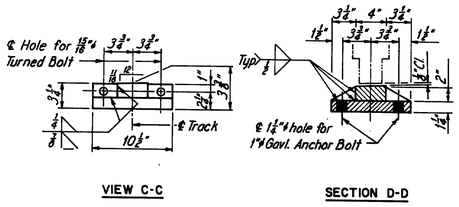

SECTION B-B

Note: Track shall be galvanized. See Sheet 11 for Anchor Bolts.




## TRACK (25)

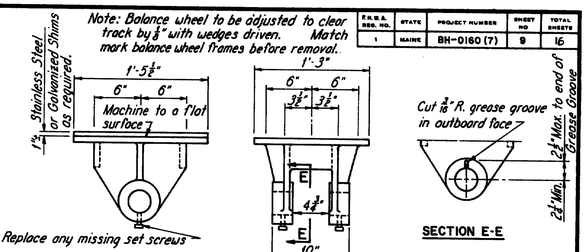
13 Segments required. 12 to be installed plus 1 spare.




VIEW C-C

SECTION D-D

Note: Balance wheel to be adjusted to clear track by ⅜" with wedges driven. Match mark balance wheel frames before removal.

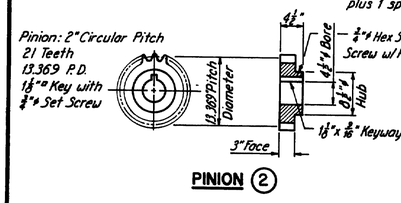



SECTION E-E

## BALANCE WHEEL FRAMES (26)

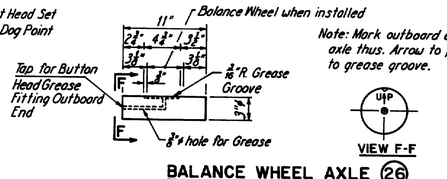
6 Frames to be removed, machined and reinstalled.

## PINION (2)



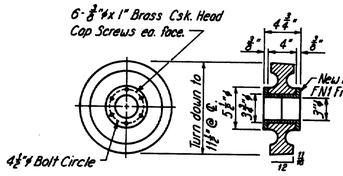

## BALANCE WHEEL AXLE (26)

6 New Axle Required. Material: ASTM A276 Type 201. Stainless Steel LN1 Fit in Frames.



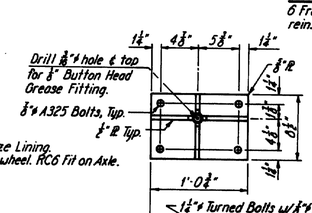

Note: Mark outboard end of axle thus. Arrow to point to grease groove.

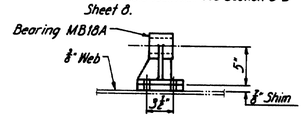


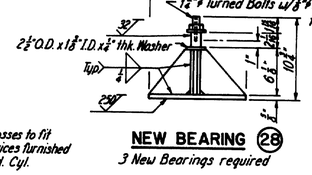

## BALANCE WHEEL (26)

6 wheels to be removed, machined, new bearings inserted and reinstalled in Frames




DETAIL A

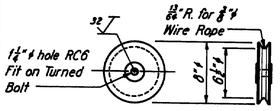



## NEW BEARING (28)

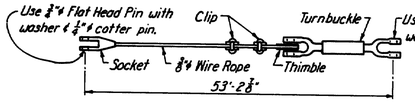
3 New Bearings required

## SHEAVE (28)

3 required, assemble on new bearings.

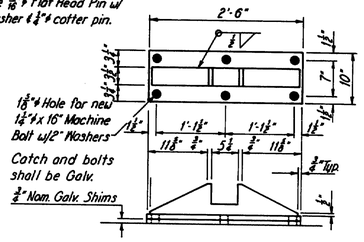



Note: Sockets, Thimbles, Pins & Turnbuckle shall be Galvanized.



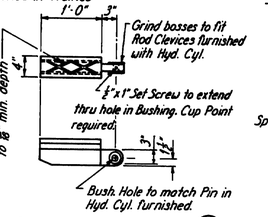

## WIRE ROPE (27)

1 required

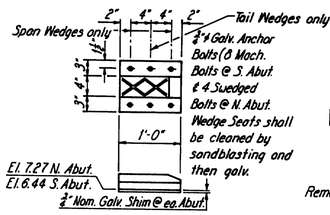



## LATCH CATCH (31)

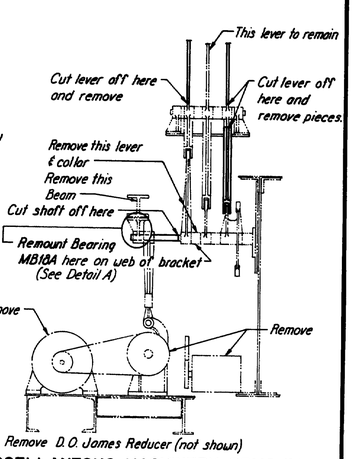
1 required



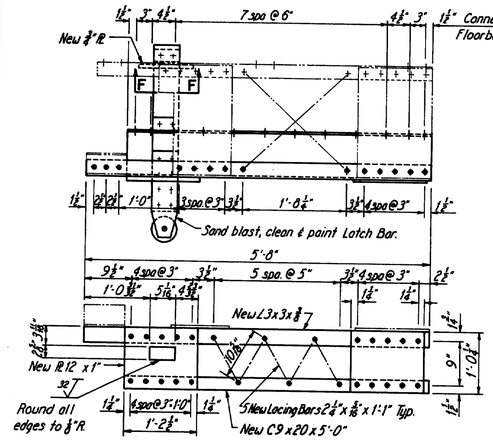

## 2 EXISTING WEDGES (24)



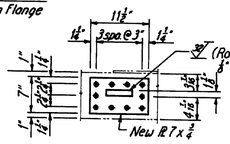

## 4 EXISTING WEDGE SEATS (29) (30)



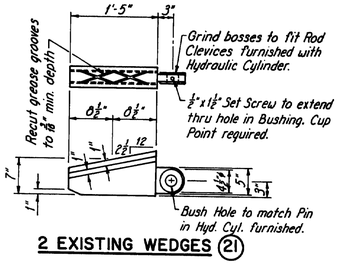

## MISCELLANEOUS MACHINERY REMOVAL AND CONTROL MODIFICATIONS



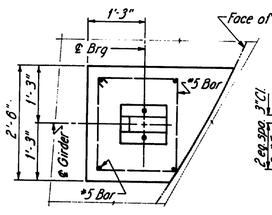

## LATCH BAR GUIDES

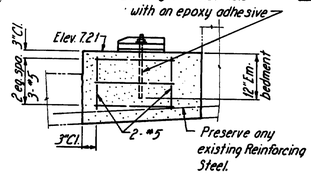



SECTION F-F




## 2 EXISTING WEDGES (21)




## NEW CONCRETE BEARING SEATS AT NORTH ABUT.

Remove old concrete to the limits shown and pour new New Reinforced Concrete Bearing Seats.

| PROJECT DESIGN ENGINEER | BY | DATE |
|---|---|---|
| PLANS | DESIGN - DETAILED | VLK 3/20/03 |
| | CHECKED | HGL 4-7-03 |
| | REVISIONS | |
| | FIELD CHANGES | |

BRUNING 44-132-4570

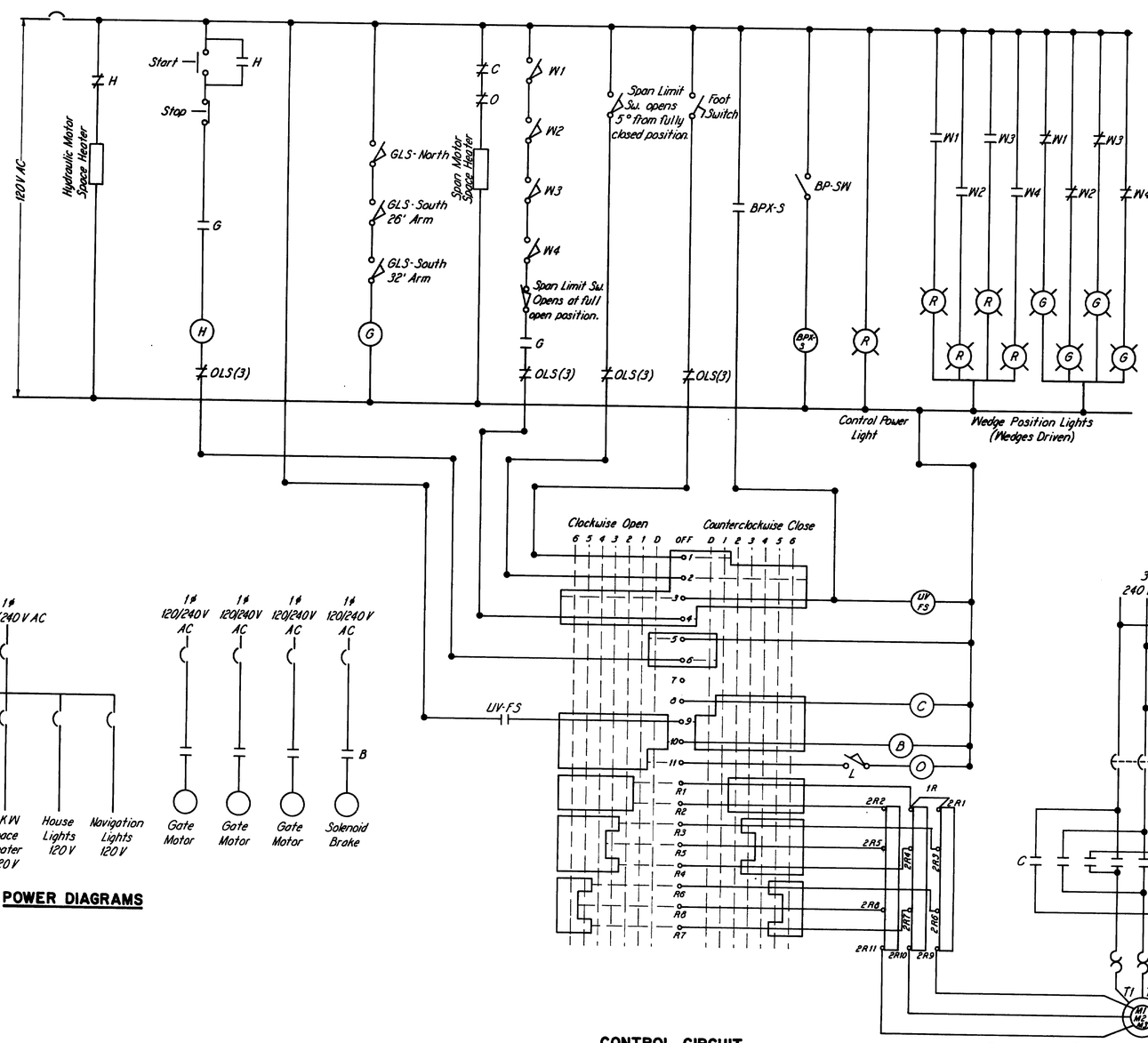
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

# GUT BRIDGE
## SOUTH BRISTOL, MAINE
## NEW MACHINERY DETAILS

SHEET 9 OF 16 AUGUSTA, MAINE

R93-173

| F.H.W.A. REG. NO. | STATE | PROJECT NUMBER | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | | 10 | 16 |




**POWER DIAGRAMS**

**CONTROL CIRCUIT**

*Bridge shown fully closed with wedges driven, traffic gate up and latch down.*

**NOTES:**

- (UV FS) *Interlock Circuit Relay.*
- (H) *Hydraulic Motor for Wedges.*
- (O) *Span Drive Motor - Open Span.*
- (C) *Span Drive Motor - Close Span.*
- (B) *Brake Solenoid - Spring Set; Electrically Released.*
- (G) *Gate Limit Switch Relay.*
- (BPX S) *Bypass Switch Relay.*

GLS = *Gate Limit Switch - Closed when Gates are down. Switches are located in the gate operators and furnished by the Gate Manufacturer.*

L = *Latch Limit Switch - Closed when Latch is fully up. Located on Latch Lever Lock Bar Stand.*

W = *Contacts indicating position of wedges. Contractor shall supply sufficient relays to multiply wedge contacts as necessary. Switches are located on the Hydraulic Cylinders and furnished by Cylinder Manufacturer.*

BP-SW *Bypass Switch.*

*The following existing electrical equipment shall be reused:*

1. *Main 3 Phase Circuit Breaker.*
2. *Brake Relay.*
3. *Lighting Panel.*

*All other electrical control equipment shall remain the property of the Maine Department of Transportation and shall be loaded onto a MDOT Truck at the site.*

| PROJECT DESIGN ENGINEER | BY | DATE |
|---|---|---|
| PLANS | JLK | 7-20-93 |
| DESIGN - DETAILED | HGL | 8-3-93 |
| CHECKED | | |
| RECOMMENDED | | |
| FIELD CHANGES | | |

BRUNING 44-132 4571O-1

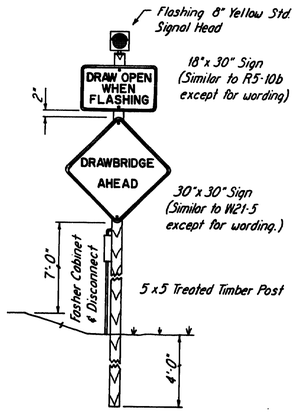
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

# GUT BRIDGE
**SOUTH BRISTOL, MAINE**
## ELECTRICAL POWER AND CONTROL DIAGRAMS

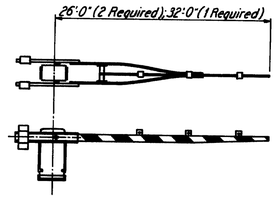
SHEET 10 OF 16 AUGUSTA, MAINE

R93-174

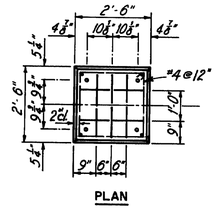
| F.A.N.A. REG. NO. | STATE | PROJECT NUMBER | SHEET NO | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | BH-0160(7) | 11 | 16 |



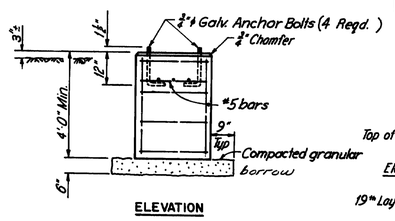

ADVANCE WARNING SIGN
(2 Required)




TRAFFIC SAFETY GATE
(3 Required)




PLAN



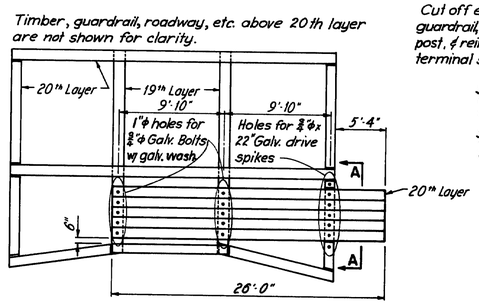

ELEVATION

TRAFFIC SAFETY GATE FOUNDATION
(1 Required)

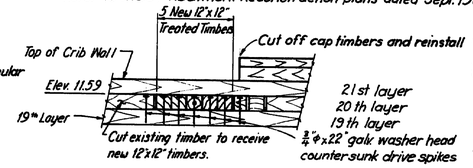
Cost of excavation and granular borrow shall be included in the unit price bid for Structural Concrete.



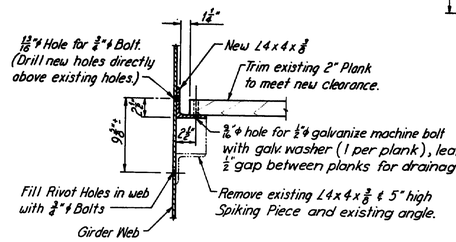

VIEW C-C




TIMBER CRIB MODIFICATION (To provide gate platform)
Refer to MDOT Abutment Reconstruction plans dated Sept. 1963

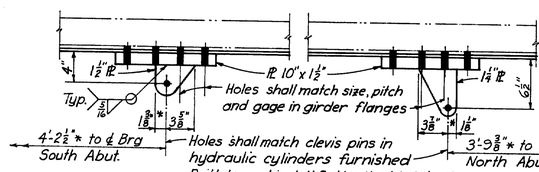



SECTION A-A



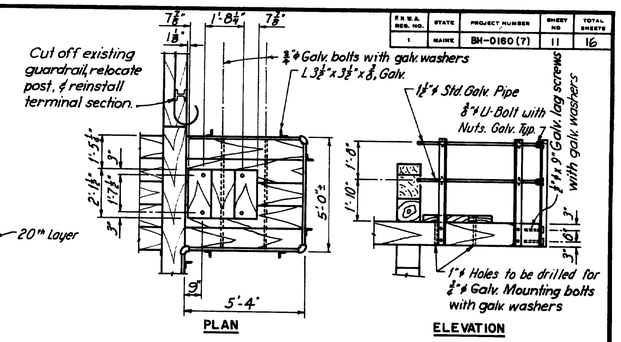

SIDEWALK SUPPORT BRACKET MODIFICATION

Note: All rust on the web in the vicinity of the existing Spiking Piece & Support Angle shall be removed prior to installation of the new Support Angle.

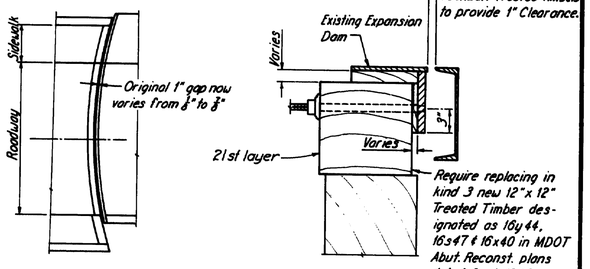



(20) HYDRAULIC CYLINDER MOUNTING (23)

* Adjust as required for hydraulic cylinders furnished.



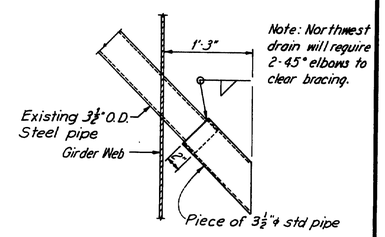

TRAFFIC SAFETY GATE PLATFORM
(1 Required at South Abutment)



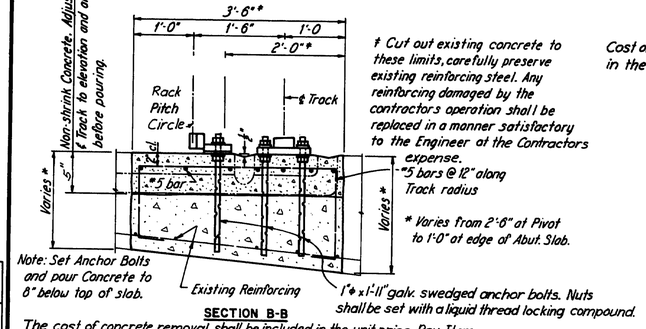




RENOVATION OF EXPANSION DAM
South Abutment




DECK DRAIN EXTENSION
(4 Required)




* Cut out existing concrete to these limits, carefully preserve existing reinforcing steel. Any reinforcing damaged by the contractors operation shall be replaced in a manner satisfactory to the Engineer at the Contractors expense.

#5 bars @ 12" along Track radius

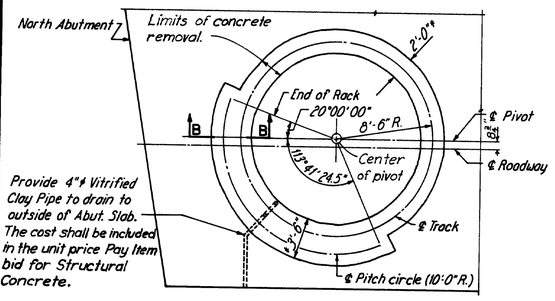
* Varies from 2'-6" at Pivot to 1'-0" at edge of Abut. Slab.

Note: Set Anchor Bolts and pour Concrete to 8" below top of slab.

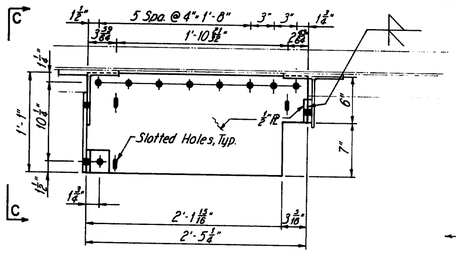
1"ϕ x 1'-11" galv. swedged anchor bolts. Nuts shall be set with a liquid thread locking compound.

SECTION B-B

The cost of concrete removal shall be included in the unit price Pay Item bid for Structural Concrete.




RACK AND TRACK FOUNDATION (1) & (25)




LIMIT SWITCH SUPPORT PLATE
1 Required - Support shall be modified as required to fit limit switch actually furnished.

| PROJECT DESIGN ENGINEER | BY | DATE |
|---|---|---|
| PLANS | DESIGNED DETAILED | JLK 3-7-00 |
| | CHECKED | HGU 4-7-00 |
| | REVISIONS | |
| | FIELD CHANGES | |

BRUNING 44-132 45710

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

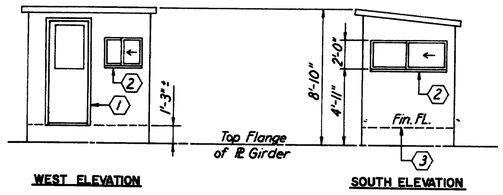
# GUT BRIDGE
## SOUTH BRISTOL, MAINE

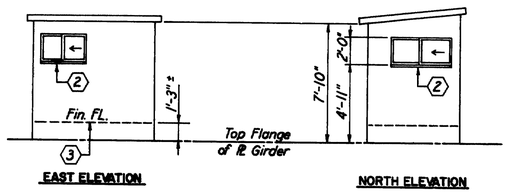
## MISCELLANEOUS DETAILS

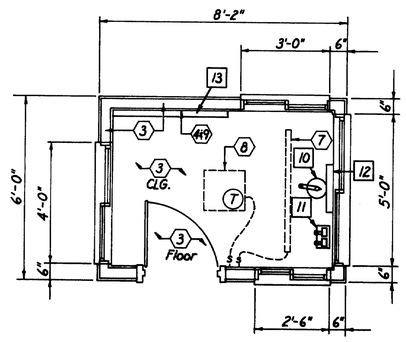
R93-175

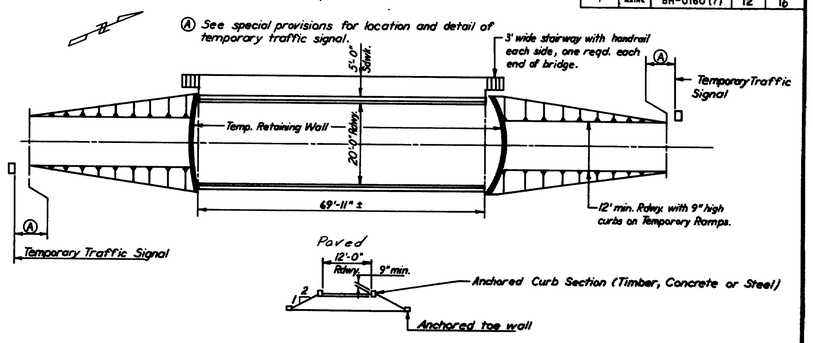
SHEET 11 OF 16 AUGUSTA, MAINE

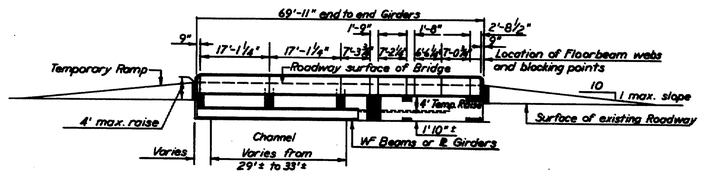
| F.H.W.A. REG. NO. | STATE | PROJECT NUMBER | SHEET NO | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | BH-0160(7) | 12 | 16 |




The contractor shall jack up the span 4'± to facilitate working room under the span. The span shall be blocked under each end of each floorbeam and against transverse and longitudinal movement. Provision shall be made for adjustments of relative floorbeam elevations to provide camber in the girders before installing new girder flange plates. The new girder flange plates shall be installed as soon as possible and the blocking over the channel removed to facilitate boat traffic.

The bridge shall be fully operational to allow the passage of boat traffic thru-out the contract period, except for the months of March, April, and May, during which time the bridge may be inoperable but shall still remain navigational for those boats which can pass under the bridge.

—TRAFFIC MAINTENANCE LAYOUT—

## SCOPE OF WORK

Provide and install the following work items to revise the operator's house. The existing floor, walls, roof and exterior siding are to remain.

Demolition requirements include removal of the existing door with frame, and windows with frames which are to be replaced. In addition, remove existing ceiling of the operator's house and the soffit below its floor, as well as any existing insulation in these locations.

## LEGEND

(1) New door shall be 2'-6" x 6'-8" x 1¾" 18 gauge hollow metal insulated. Door shall have full upper light with double pane ¼" tempered glass with insulating air space. Frame shall be 18 gauge standard 5¾" deep hollow metal, reinforced as required. Hardware shall consist of 1½ pair commerical grade butts, weatherstripping, latchset and new aluminum threshold.

(2) New windows shall be extruded aluminum, single vert, horizontal rolling, complete with sill and trim members as required for weather tight installation. Glass shall be double pane ¼" clear float glass with insulating air space, frame shall have thermal break feature. Finish shall be clear satin. Units shall have insect screens.

(3) Insulation shall be fiberglass batts with kraft paper backing. Use 4", R-13 at roof and walls and 6", R-13 at floors.

(4) Provide and install new fir wood framing as required to complete installations. Interior wall paneling shall be ¾" A-C plywood. Ceiling shall be ¼" C-D plywood. All plywood shall be exterior grade fir.

## REVISION TO OPERATORS HOUSE

(5) Repair roofing, flashings, wall shingles and replace wood members as required for complete restoration.

(6) Apply paintable weatherproofing sealant to all existing cracks or gaps in existing structure to provide weathertight enclosure. Use sealant at all interior and exterior edges for new windows and doors including perimeter of new plywood ceiling and soffit.

(7) Light fixture shall be 4'-0" single lamp strip fluorescent with switch location at latch side of door.

(8) Provide one electric ceiling mounted forced air heater, 2000 watt, 6826 B.T.U. with totally enclosed, permanently lubricated motor. The unit shall be complete with built-in controls, pre-set at 50°F and an on-off switch located next to light switch.

(9) Paint interior paneling with 1 prime and 1 finish coat of latex enamel. Paint door and frame with 2 coats of exterior oil based enamel.

(10) Location of drum controler.

(11) Location of hydraulic controls.

(12) Wedge position indicator lights.

(13) Electrical Control Pannels.

Items (10) thru (13) are not included for payment in the Lump sum Pay Item for Revision to Operators House and are shown here for location only.

| PROJECT DESIGN ENGINEER | BY | DATE |
|---|---|---|
| PLANS | DESIGN-DETAILED | DOT 4-1-93 |
| | CHECKED | HGJ 4-1-93 |
| | RECOMMENDED | |
| | FIELD CHANGES | |

BRUNING 44-132 45710

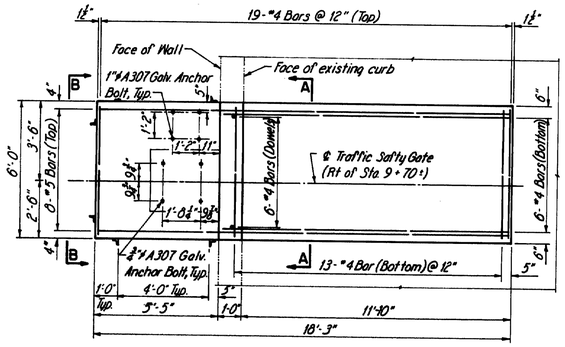
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

# GUT BRIDGE
## SOUTH BRISTOL, MAINE
## CONSTRUCTION SEQUENCE AND OPERATOR HOUSE DETAILS

SHEET 12 OF 16 AUGUSTA, MAINE

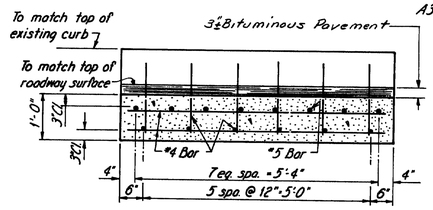
R93-176

| F.A.S.S. RDC. NO. | STATE | PROJECT NUMBER | SHEET NO | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | BH-0160(7) | 13 | 16 |

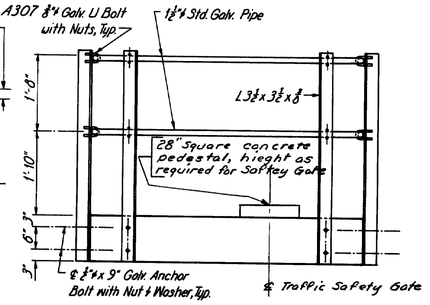



## TRAFFIC SAFETY GATE AND WARNING LIGHTS FOUNDATION

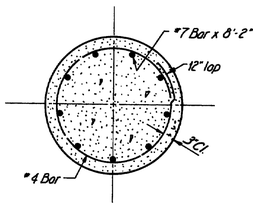
*Concrete and reinforcing steel are included in bid items 502.21-Structural Concrete Abutments and Retaining Wall, 503.12-Reinforcing Steel Fabricated and Delivered and 503.13-Reinforcing Steel Placing.*




SECTION A-A

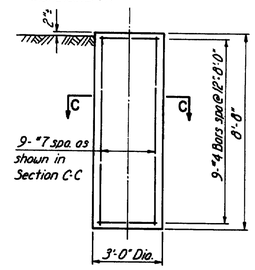



VIEW B-B




SECTION C-C

Note: ASTM A325 Anchor Bolt size and pattern to be designed by pole manufacturer.



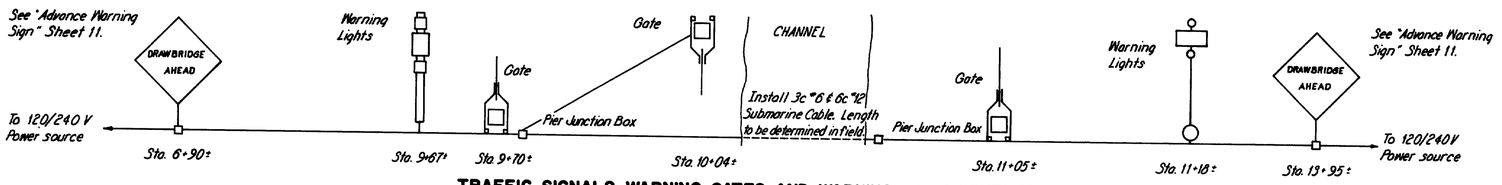

## SIGNAL POLE FOUNDATION

*Ref. to Detail A-A Sheet 2.*

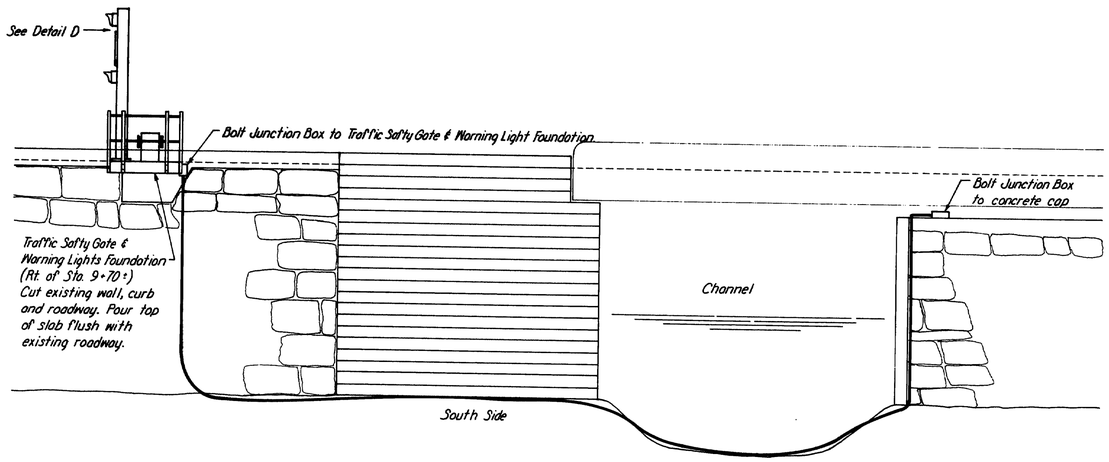
NOTE:

All excavation, borrow, and backfill required for the satisfactory completion of the specified work shall be considered as incidental to the contract pay items.

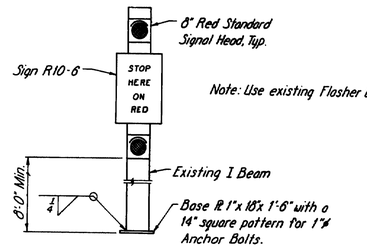
Traffic shall be maintained during the timber crib modification for the Saftey Gate platform and the renovation of the expansion Dam. All cost to maintain traffic over the work area shall be incidental to the contract items.




## TRAFFIC SIGNALS, WARNING GATES AND WARNING SIGNS SCHEMATIC




## SUBMARINE CABLE SCHEMATIC




DETAIL D

| PROJECT DESIGN ENGINEER | | BY | DATE |
|---|---|---|---|
| PLANS | DESIGN-DETAILED | LMK | 8-1-91 |
| | CHECKED | TRO | 8-2-91 |
| | FIELD REVIEW | | |
| | FIELD CHANGES | | |

BRUNING 44-132 45710-1

HARRINGTON & CORTELYOU, INC.
Consulting Engineers

R93-177

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

# GUT BRIDGE

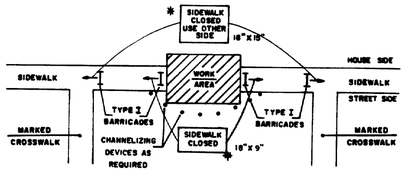
**SOUTH BRISTOL, MAINE**

TRAFFIC SIGNALS, WARNING GATES, WARNING SIGNS AND SUBMARINE CABLE SCHEMATIC

SHEET 13 OF 16 AUGUSTA, MAINE

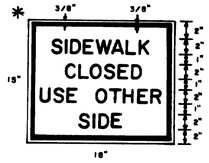
| F.A.S.H.A. NOS. OR. | STATE | PROJECT NUMBER | SHEET NO | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | BH-0160(7) | 14 | 16 |

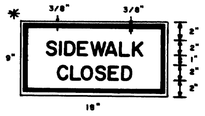
* NON-REFLECTORIZED WHITE BACKGROUND, BLACK TEXT AND BORDER-2" SERIES 'C' UPPER CASE LETTERS



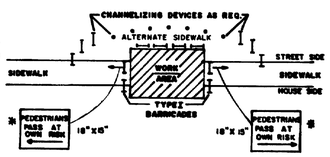

**SIDEWALK CLOSURE**
**WITHOUT ALTERNATE SIDEWALK**

A



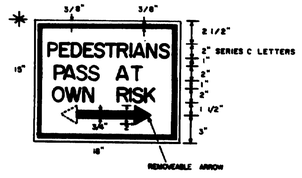



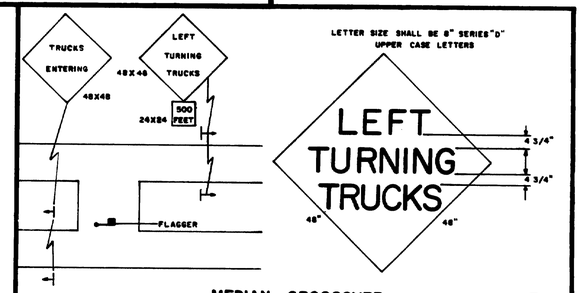

* NON-REFLECTORIZED WHITE BACK GROUND, BLACK TEXT AND BORDER-2" SERIES 'C' UPPER CASE LETTERS




**SIDEWALK CLOSURE**
**WITH ALTERNATE SIDEWALK**

B

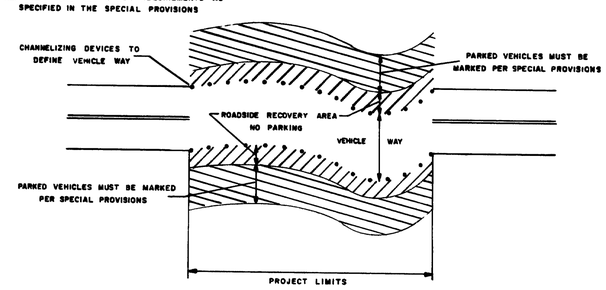



**MEDIAN CROSSOVER**

E

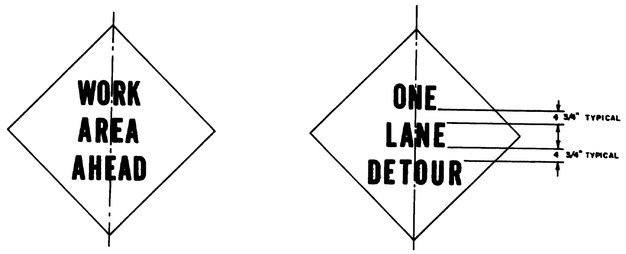
ALL DIMENSIONS AND OTHER REQUIREMENTS AS SPECIFIED IN THE SPECIAL PROVISIONS




**ROADSIDE RECOVERY AREA**

C

CONSTRUCTION WARNING SIGN DETAIL




1. Letter size shall be 8" Series 'D'.
2. Border dimensions and legend design shall conform to "Standard Highway Signs".

D

**GENERAL NOTES**

1. Distances shown for sign placement are nominal, exact locations shall be determined by the Engineer.
2. Grades on temporary roadways through the construction zone used by the public shall not exceed 10 percent.
3. Advisory speed consistent with prevailing conditions shall be as determined by the Engineer.
4. Use shaded signs when specified in the Special Provisions.
5. The length of tapers shall be determined from the following formulas:

   If S is equal to or less than 40 MPH
   $L = (W \times S \times S) / 60$

   If S is equal to or greater than 45 MPH
   $L = WS$

   Where:

   L = taper length in feet
   S = operating speed in MPH
   W = width of roadway to be closed in feet

   Taper lengths shall be rounded to the nearest five feet.

   It may be required to extend lane closure tapers to provide a smooth transition where geometric alignment reduces sight distance.

6. The maximum longitudinal spacing of channelizing devices shall conform to the following:
   (a) 20 feet through work areas
   (b) A distance in feet equal to the numerical value of the operating speed, i.e., 40 MPH = 40 feet
   (c) In all areas not covered above maximum spacing shall be as follows:

| Radius of curve | Spacing |
|---|---|
| 50' to 300' | 25' |
| 301' to 700' | 50' |
| 701' to 1000' | 75' |
| over 1000' | 5 times the operating speed |

   The maximum transverse spacing in tapers shall be determined from the the following formula:

   $D = (W \times S) / L$

   Where:

   D = transverse spacing in feet
   W = width of roadway to be closed in feet
   L = taper length in feet
   S = operating speed in MPH

7. BORDER DIMENSIONS AND LEGEND DESIGN SHALL CONFORM TO THE STANDARD HIGHWAY SIGNS BOOKLET.

| PROJECT DESIGN ENGINEER | BY | DATE |
|---|---|---|
| PLANS | DESIGN - DETAILED | |
| | CHECKED | |
| | REVISIONS | |
| | FIELD CHANGES | |

| REVISIONS | | |
|---|---|---|
| 3-4-80 | GENERAL NOTES | |
| 4/3/80 PF | A,B,C,GN | |

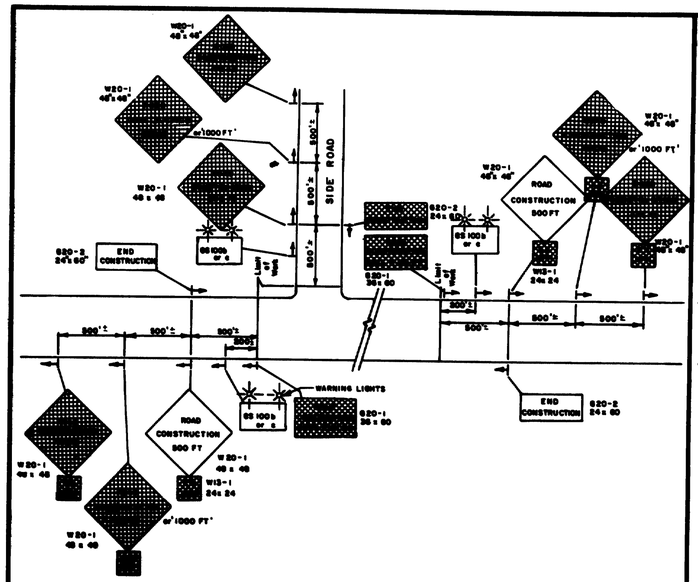
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

# MAINTENANCE OF TRAFFIC IN CONSTRUCTION ZONES

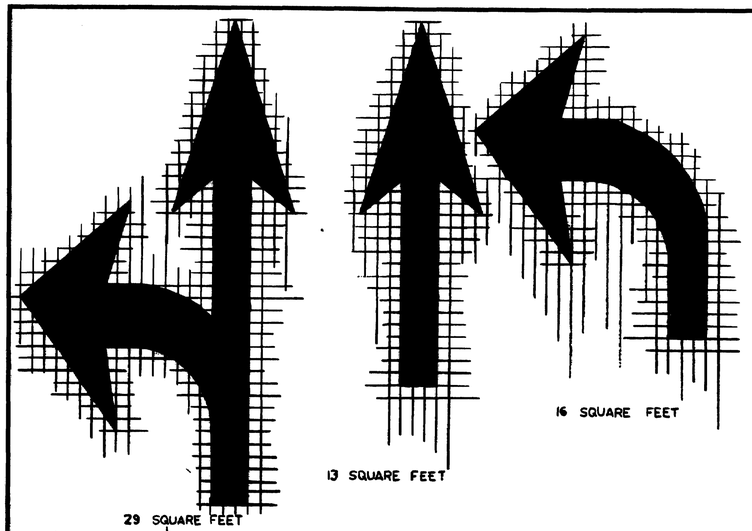
R93-178

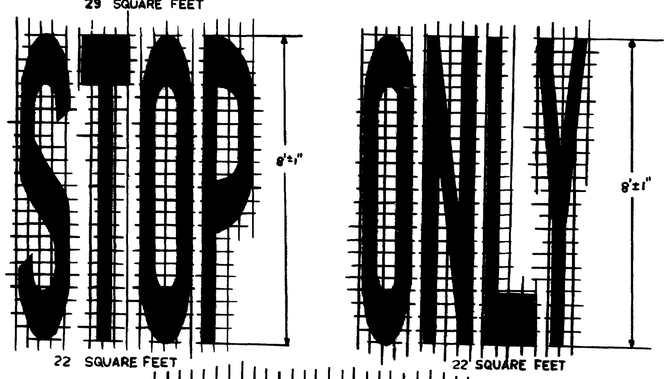
SHEET 1 OF 3 AUGUSTA, MAINE

| F.H.W.A. CONT. NO. | STATE | PROJECT NUMBER | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | BH-0160(7) | 15 | 16 |


W20-1 48 x 48
W20-1 48 x 48
W20-1 48 x 48
W20-1 48 x 48
W13-1 24x 24
W20-1 48 x 48
W20-1 48 x 48
W20-1 48 x 48
W13-1 24x 24

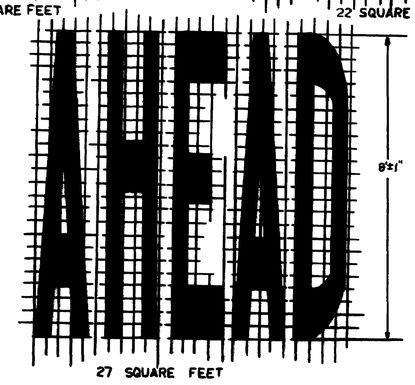
| F.H.W.A. REGN. NO. | STATE | PROJECT NUMBER | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | BH-0160 (7) | 16 | 16 |

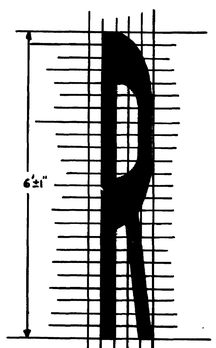









STROKE WIDTH AND LINE WIDTH VARIANCE SHALL BE ± 1/4 INCH FROM DIMENSIONS SHOWN.

DIMENSIONS SHOWN ARE PAY DIMENSIONS

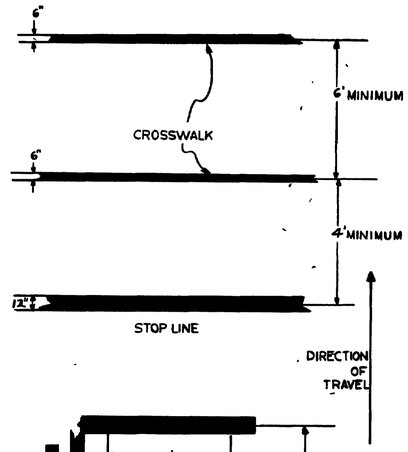
GRID IS MARKED IN FOUR INCH INTERVALS EXCEPT AS NOTED

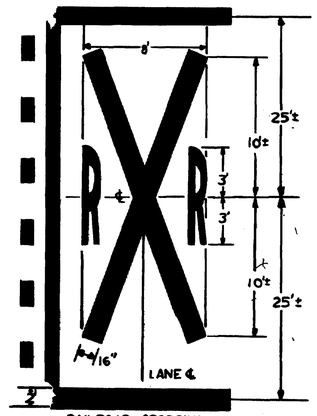
SYMBOLS AND LETTERS SHALL BE PROPORTIONED ACCORDING TO GRID AS SHOWN.

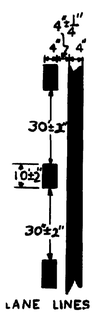
THE SPACE BETWEEN CHARACTERS SHALL BE ONE UNIT, BUT VISUAL SPACING MAY BE USED.

SPACING BETWEEN SYMBOL AND STOP LINE SHALL BE A MINIMUM OF 20FT OR AS DIRECTED BY ENGINEER.

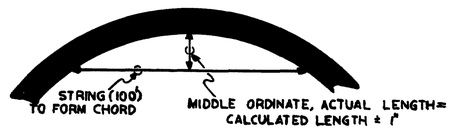
SPACING BETWEEN SYMBOL AND SYMBOL SHALL BE A MINIMUM OF 50 FT OR AS DIRECTED BY ENGINEER.




TOLERANCE FOR PAVEMENT MARKING LINES



DISTANCE FROM THE STRING TO THE EDGE OF THE PAVEMENT MARKING LINE SHALL NOT BE MORE THAN 1'.

| PROJECT ORIGIN NUMBER | BY | DATE |
|---|---|---|
| PLANS | DESIGN-DETAILED | |
| | CHECKED | |
| | REVISIONS | |
| | FIELD CHANGES | |

| REVISIONS |
|---|
| DEC 79 |

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

# STANDARD PAVEMENT MARKINGS

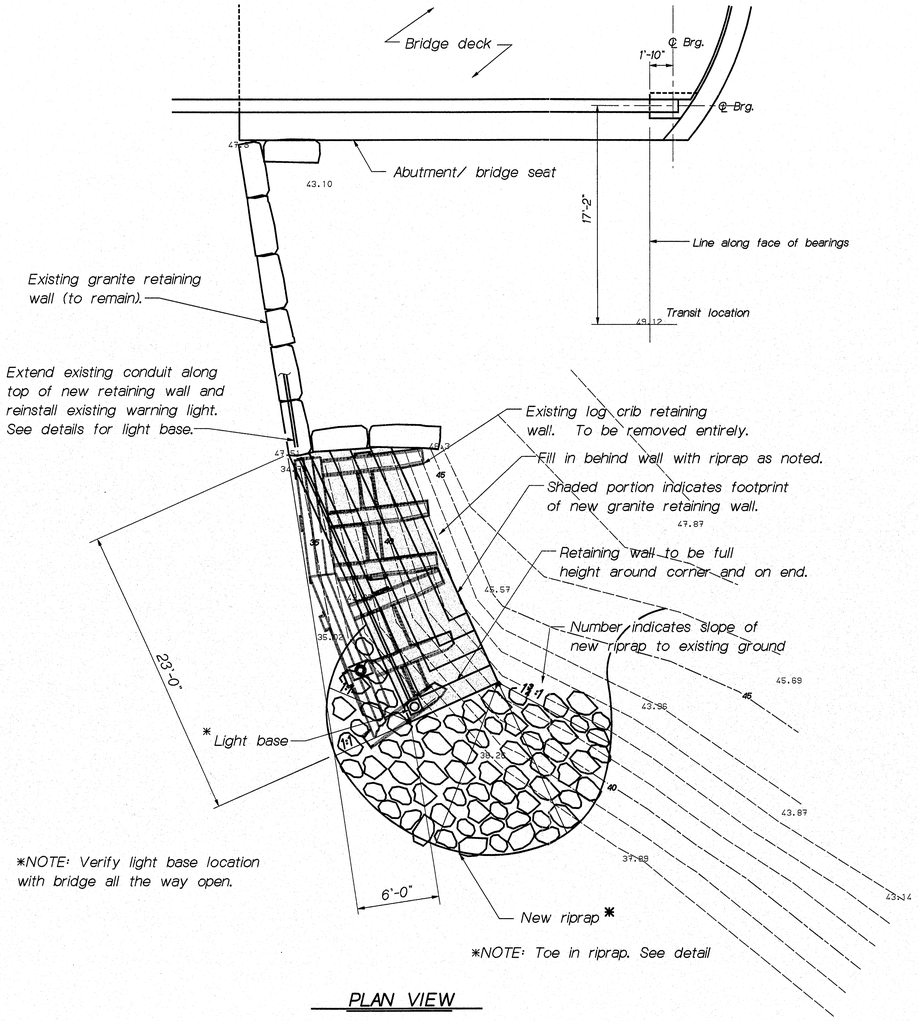
(PART 3 1978 MUTCD)

SHEET OF AUGUSTA, MAINE

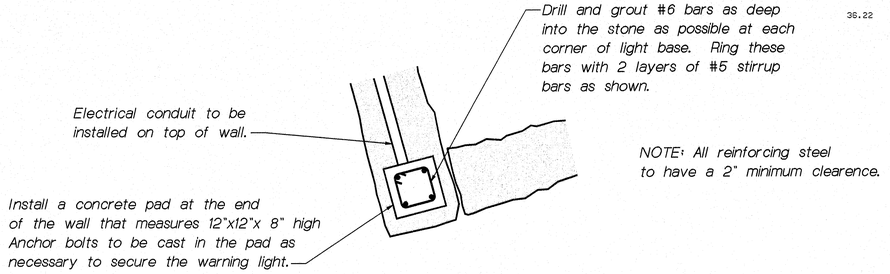
R93-180

# 1994  Retaining Wall – Reel 128

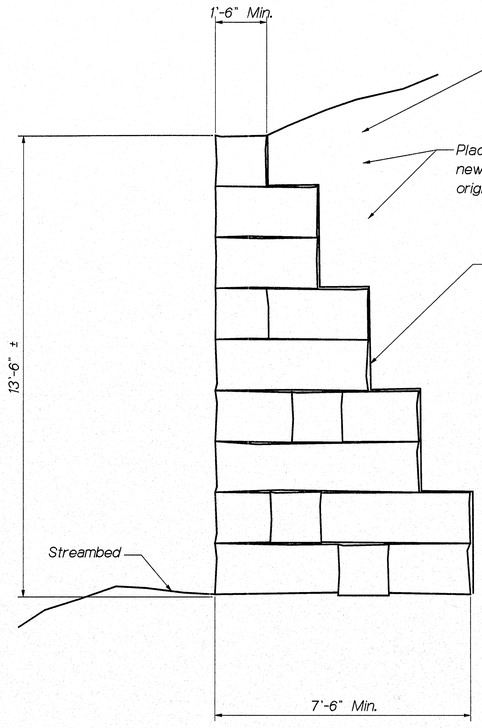
| F.H.W.A. REG. NO. | STATE | PROJECT NUMBER | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | #2339 | 1 | 1 |



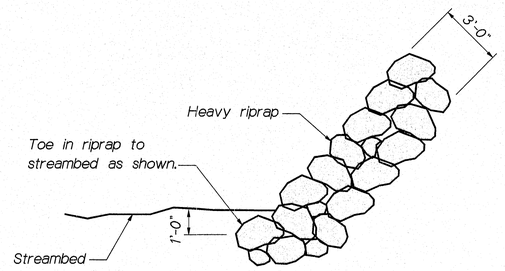

PLAN VIEW




WARNING LIGHT BASE




TYPICAL SECTION THRU RETAINING WALL




RIPRAP DETAIL

| PROJECT DESIGN ENGINEER | BY | DATE |
|---|---|---|
| PLANS | DESIGN-DETAILED L.S.BENNER | 1/94 |
| | CHECKED | |
| | REVISIONS | |
| | FIELD CHANGES | |

17NOV99-010000

128-90

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

# THE GUT BRIDGE
BETWEEN
RUTHERFORD ISLAND AND THE MAINLAND
IN
SOUTH BRISTOL
LINCOLN COUNTY
RETAINING WALL INSTALLATION

SHEET 1 OF 1 AUGUSTA, MAINE JANUARY 1994